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ABSTRACT

The career education movement, its roots dating back to the early sixties, has brought concern for career development to public attention. Theories of occupational choice and career development have been postulated by occupational psychologists since 1951 when Ginzberg did his initial work in the area. When change did come it took the form of additional transition-type experiences for youth, greater availability of exploratory courses and vocational education, and an increase of interchange between students and working people. The nature of these experiences have varied in design and effectiveness. An overview of the structure to be used in generating a true orientation course indicates a self-evaluation phase, a transitional state related to work environments, a simulation stage aiding students to relate to both work environments and career clusters, and an educational/career planning stage whose purpose initially is short term planning, then long term planning. Opportunities to investigate a particular cluster or mode coupled with observational experiences are of utmost importance. In this manner a smooth transition is made by students who first focus upon self, then relate personality characteristics to types of work environments, identifying where such environments as seem appropriate to the individual are found among the career clusters, and finally planning those educational experiences which seem most appropriate to their career development. (References are Listed). (JT)

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A RATIONALE AND STRUCTURE FOR
"A WORLD OF CHOICE: CAREERS AND YOU"

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at
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PREFACE

The Division of Vocational Education, State Department of Education, Commonwealth of Virginia, has pioneered the movement for career orientation on a state-wide basis. After identification of the need for a course to orient students to the world of work, as assessed from the requests of local school divisions, personnel within the state vocational division made preliminary plans for the development of such a curriculum. The middle school or junior high school, chosen as the area for implementation, provides a logical progression from the proposed introductory phase of career education to the existing vocational skill-teaching courses usually taught at the secondary level within the public schools. It was postulated that orientation to all careers and vocations through the facility of the occupational clusters as developed by the United States Office of Education would provide a broad base from which students would view the world of work.

The vocational division took action by adopting the following as one of its continuing objectives: "By June 30, 1977, students in all school divisions will have access to an approved, across-the-board vocational orientation program as verified by the Vocational Education Reporting System." The strategy for the realization of this objective states, in part: "By June 30, 1975, an across-the board vocational

orientation program will be developed through research." The State has chosen Virginia Polytechnic Institute and State University to conduct this research since all vocational program or service areas are represented within the Division of Vocational and Technical Education in the College of Education.

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CHAPTER I

CAREER DEVELOPMENT AS AN EDUCATIONAL GOAL

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Introduction and Goals

The beginnings of mass education in the United States demanded a formal statement of educational goals or objectives. One of the earliest and most influential of these was the "seven cardinal principles" which included health, command of fundamental processes, worthy home membership, worthy use of leisure, vocation, citizenship, and ethical character (Commission on Reorganization of Secondary Education). In 1938, educational objectives were grouped under four categories: self-realization, human relationship, economic efficiency, and civil responsibility (Educational Policies Commission). Nearly a decade later, the Harvard Committee put forth a composite objective: "To prepare an individual to become an expert in some particular vocation or art and in the general art of the free man and citizen" (The Committee on the Objectives of a General Education in a Free Society). Reflecting these changing goals, various subjects have been deleted--others added--to the curriculum.

Vocational Education

Vocational education and the practical arts had already become a part of the school curriculum when the initial statement of goals was put forth in 1918. The changing social pattern, from rural to urban, from agrarian to industrial, was as much the cause as anything.

Even before, however, at the Centennial Exposition in Philadelphia in 1876, Victor Della Vos of the Imperial Technical School in Moscow, Russia, presented an innovative method of teaching vocational skills, in particular, a way of training tradesmen. This system, which was then and is still, called the "Russian System":

1. was based upon an analysis of specific trades and ordering of occupational tasks from simple to complex,
2. facilitated a much larger student-teacher ratio,
3. utilized group as well as individualized instruction, and
4. recognized the value of immediate application and knowledge of the result to learning. (Bailey and Stadt)

The Russian System had a great impact on American education and is credited with influencing many prominent people in both education and medicine. According to Bennett, the public vocational education movement in the United States began with two very significant events which occurred in 1906. The first came in the form of recommendations from a committee appointed by Governor William F. Douglas which came to be known as the Massachusetts Commission. Their recommendations included the following:

1. Elementary education should include instruction and practice in the elements of industry which included agriculture, mechanic and

domestic arts and instruction in other subjects showing application to industrial life

2. High schools should offer electives in agriculture, mechanical and domestic arts and instruction in mathematics, science, and drawing, again showing application to local industries (Bailey and Stadt)

From this commission came the recognition of the importance of day, part-time, and evening schools. The Massachusetts Commission also recognized the importance of establishing industrial schools--a forerunner of the area vocational school and later the "comprehensive" school.

The second major event in 1906 was the formation of the National Society for the Promotion of Industrial Education which later had as its purpose to

1. develop descriptive bulletins,
2. secure the support of labor leaders such as Samuel Gompers,
3. deal with matters such as management-labor differences,
4. investigate and analyze apprenticeship patterns,
5. establish trade education for girls, and
6. deal with state and federal legislation (Bailey and Stadt).

This organization later evolved into the American Vocational Association and since has had much influence on legislation and the United States Office of Education (USOE).

During the years between 1906 and 1914, Congress debated the topic of vocational education to a great extent. However, no legislation was produced. Finally, after a third presidential appeal and a national referendum, the Smith-Hughes Act became law in 1917, which actually

provided the sole support of vocational education until the passage of the George Barden Act in 1946. Specifically, the Smith-Hughes Act proposed the following:

1. The promotion of vocational education
2. Cooperation with the states in the promotion of agricultural education, trade and industrial education, and home economics education
3. Cooperation with the states in preparing teachers of vocational education
4. Funding procedures for vocational education (Bailey and Stadt)

Vocational Guidance

During this period, Frank Parsons, director of the first vocational guidance center in the United States, emerged as the father of the vocational guidance movement. Parsons advocated what is termed the "trait factor" theory of occupational choice. His theory was based upon the idea that every individual possessed unique capabilities and potentialities (or traits) and that occupations could be described in terms of similar qualities or factors. This became the first theory of occupational choice in the United States and laid the foundation for many theories to come (Bailey and Stadt).

Following World War I, the National Education Association (NEA) emphasized the role of guidance for further education and not specifically for jobs. Because of the adoption of such policies by the NEA, vocational guidance began to lose the close working relationship it had enjoyed in previous years with vocational education.

During the early fifties, a second theory of occupational choice

and career development emerged--the "developmental" theory. One of the first to promote this theory was Ginzberg et al. in 1951. It was concluded that occupational choice was a developmental process which took place over a period of years and was actually a compromise between individual characteristics, wants, opportunities, and the limitations found in entering the world of work. Ginzberg later reformulated his theory, realizing that occupational choice was also affected by such factors as income, sex, and race, even though the individual was still the prime factor in the decision-making process (Ginzberg, 1969).

Super later expanded on these findings identifying additional influencing factors which included the following:

1. Geographic locale
2. Socioeconomic level
3. A "model"
4. "Try-out" experiences
5. Religious background
6. Parental influence
7. IQ

Super felt that Ginzberg failed to take into account the continuity of preferences and career development stages. He stated: "The process of vocational development is essentially that of developing and implementing a self-concept" (Super, 1957, 185). In coining the term vocational development rather than vocational choice, Super concluded that an individual chooses an occupation which is most likely to permit him self-expression and as an individual matures, his self-concept becomes more stable.

By 1956, others had proposed a conceptual framework of occupational choice and selection. One model was based on "the process of selecting" or "the process of choice" in determining why people enter different occupations (Bailey and Stadt). It concluded that certain factors are related to an individual's choice of jobs and that there are aspects or characteristics of an occupation which in turn "select" an individual.

A third theory of vocational choice emerged in Holland's personality approach. He hypothesized that members of similar occupations have similar personalities and will respond to situations and problems in similar ways. In addition, Holland believed that success on the job is related to the compatibility of an individual's personality and the particular "work environment."

Holland describes six "work environments" as being suitable for his personality types as follows.

Realistic persons deal with mechanical problems that are explicit and physical in nature where tools are used and tasks concrete. Mechanical skills are employed or mechanical ingenuity used. Nonsocial, process-oriented activity predominates, in which success/failure is obvious.

Investigative persons perform abstract, creative activities using their imagination, intelligence, and sensitivity. Their personal relationships are superficial, achievement is gradual, and writing ability is used.

Social persons are concerned with interpreting or modifying human behavior--caring for, communicating with others. Their own status and self-esteem is promoted. Verbal ability and listening skills are employed.

Conventional persons enjoy systematic work which is concrete-oriented, characterized by routine processing of verbiage and numbers in a short time frame. Sequence, organized activity is typical. Reaching, handling, fingering, and feeling are done. Little physical strength is needed. Minimal interpersonal skills are used.

Enterprising persons direct, persuade and/or plan the activities of others. The setting is people-oriented. These persons are persuasive and supervisory in nature. Talking and listening skills are used.

Artistic persons interpret "creative forms," ideas or facts. Personal perspective is present, standards of excellence are high, and all personal resources are used.

In the late fifties and sixties, such noted theorists as Roe and Hoppock remarked that desires and wants stimulate an individual to prefer one occupation over another--the "need" theory approach to occupational choice. Roe stated that since the emotional climate of the home is directly related to the basic attitudes, interests, and capacities of an individual, it is also related to the general patterns of one's life, including personal relations as well as vocational choice (Bailey). Hoppock's "composite theory" hypothesizes, essentially, that occupations are chosen to meet inner needs and that presenting occupational information in the career development process is of greatest importance (Bailey and Stadt).

With the emergence and acceptance of various theories of vocational choice and career development, the need became evident for a more directed effort in vocational education. The 1963 Vocational Education Act provided monies to states to develop "adequate vocational education systems."

An advisory council on vocational education, established by the Vocational Education Act of 1963, made recommendations that were incorporated into law in 1968. The 1968 Vocational Education Amendments called for "an expansion in the guidance and counseling concept to include services which facilitate job choices as well as

reaffirming the reciprocal needs of vocational education and guidance" (Bailey and Stadt).

The implications of the 1963 and 1968 vocational education legislation were many, but the reestablishment of linkage between vocational and general educators, as both addressed the student's career development, was most important.

Middle/Early Secondary School

The period between 1968 and 1972 saw increased awareness of vocational education and career development, coupled with legislation which, for the first time, gave vocational educators a degree of flexibility. The emphasis upon vocational guidance and career development resulted in a diverse number of junior high school "exemplary" programs. These were identified as "vocational orientation" courses in many instances. Subjects deemed prevocational such as industrial arts and business education became a part of the vocational administrative organization in many states. At about this time also, the middle school gained acceptance by many school systems.

The interest in the middle school and the junior high school was based in part upon acquainting students with occupational training opportunities at a point in time when they were making tentative decisions which had both educational as well as career-related overtones.

Leaders in junior high school education in 1970 noted the purpose of guidance as being "to assist pupils to make intelligent decisions regarding present vocational opportunities and to prepare them to make future vocational decisions" (Bailey and Stadt).

They further stated that opportunities should be provided to "discover and explore their specialized interests, aptitudes, and abilities as a basis for present and future vocational decisions" (Gruher and Douglass).

Career Education

In 1970, before the National Association of Secondary School Principals, James E. Allen, then Assistant Secretary of Education and United States Commissioner of Education, made reference to a term that a year later would herald a new trend in American education. Allen may have coined the term "career education" when he said:

It is the renewed awareness of the universality of the basic human and social need for competence that is generating not only increased emphasis on career education, but a whole new concept of its character and its place in the total educational enterprise (Bailey and Stadt).

Upon appointment as the United States Commissioner of Education in 1970, Sidney P. Marland, Jr., in his first major address, called for the abolition of the general education curriculum and its replacement by "career education." Before the National Association of Secondary School Principals, Marland stated:

All education is career education, or should be. All of our efforts as educators must be spent on preparing students either to become usefully employed immediately upon graduation from high school or to go on to further formal education.

As originally conceived, career education was to offer young children (elementary grades) more of an awareness of work--what adults do in their careers and how the results of their efforts are related to the school subjects being studied at that level. The junior high school and

middle school exploratory experiences were increased to reflect a broader range of career opportunities than previously available. An increase in transitional kinds of experiences characterized the senior high school career education program. These were experiences which enabled students to prepare for, and enter, the work world while still in school. Specialization characterized the senior high school career education program.

Conclusion

The increased diversity of exploratory experiences available for junior high school and middle school students has made it essential to prepare such students to identify those which are most meaningful and appropriate to them. Virginia Polytechnic Institute and State University has been charged with the development and field-testing of such an orientation experience. The Clusters Approach to Career Orientation (CACO) Project within the Vocational and Technical Education Division has thus undertaken the design of a one-year course to be called "A World of Choice: Careers and You."

CHAPTER II

THE NATURE OF ORIENTATION EXPERIENCES

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Introduction

The early secondary school has been recognized as meeting the needs of young people to explore their interests, abilities and aptitudes. Having gained a more complete self-concept as a result of their elementary experience, students in the early secondary grades are provided opportunities to test and experiment. Consequently, clubs, exploratory courses, and other diverse experiences are commonly found in the junior high school.

In the late sixties "orientation" courses designed to acquaint students with occupational areas related to particular vocational courses were increasing--a response to the more flexible vocational education legislation which became law in 1963 and 1968.

The Terminological Problem

"Exploratory" courses and experiences as well as "orientational" activities have suffered, however, from misinterpretation and lack of agreement as to their intent and purpose. Before reviewing the various specific efforts related to the Clusters Approach to Career Orientation Project, several terms, sometimes used synonymously, should be clarified.

Orientation

In the counseling sense, "orientation" is defined by Goode as "a program to help pupils prepare for and adjust to new situations as they progress through school and on to college or employment."

The term has an historical use in preparing cooperative part-time students in vocational education for entry into the world of work.

As defined within the context of career education, the term orientation refers to acquainting the early secondary student to the total range of career opportunities which exist and further to the identification of those which seem appropriate--such "appropriateness" primarily in terms of his particular personality characteristics.

Exploratory

Goode defined an "exploratory course" as one which is intended to help the prospective entrants evaluate the opportunities of "an unfamiliar field of study." More specifically, they are those which are designed

to open up new vistas and stimulate new activities in order to discover and develop the interests and capacities of students and contribute to their guidance in occupational selection or plans for further education (Goode).

This is in keeping with early secondary philosophy.

Occupational psychologists, however, note that the "exploratory stage" in career development, while beginning in the early teens, goes well beyond high school and includes all those experiences having a career connotation, including specific vocational training and work in several occupations. Career education, as has been noted, designates

the middle or junior high school years as the "career exploratory" stage.

There is agreement, then, that the term implies try-out kinds of experiences having career and educational planning connotations. There is some disagreement, however, as to the time frame in which this process occurs.

Career

According to Webster, a career is

a course of continued progress; a field for pursuit of consecutive, progressive achievement, especially in public, professional or business life; a profession for which one undergoes special training and which is undertaken as a permanent calling (Webster's Third New International Dictionary).

The term is especially germane to this project and is one commonly misunderstood. It is sometimes used synonymously or interchangeably with "vocation." However, there are some important differences. Goode defines vocation as a calling to a particular occupation, business or profession. The term is given an economic dimension by Webster who notes it to be "the work in which a person is regularly employed, usually for pay."

The difference can most readily be grasped by noting that several vocations can make up a career if they are progressively related.

"Career," then, refers to a process which is long term in nature and which involves preparational experiences. Sociologists would add the dimension of a life style in keeping with the nature of such "lifework."

Try-Out Experiences

As described by occupational psychologists, try-out experiences are actual opportunities to experience an occupation, or more specifically, an occupational task. The opportunity to do so is considered especially pivotal in the career selection of young persons.

In lieu of actual work experience, which is difficult for young people to obtain, simulation-type activities may serve this purpose.

Vocational/Career Guidance

It is also necessary to differentiate between these two terms so that they will not be used interchangeably.

Vocational guidance refers to assisting persons in the selection of occupations and adequate training or retraining for them; while career guidance denotes career planning based on a student's values, needs, interests, and abilities and involves various informational resources (Goode). Thus, part of career guidance may be vocational guidance.

While there are other terms which need to be defined in the context of this rationale, those above will prove helpful in understanding the description of previously undertaken research which is meaningful to this project.

A Review of Related Studies

Review and evaluation of numerous project efforts have revealed a limited number of endeavors which are similar in nature to the Clusters Approach to Career Orientation Project. For example, none seem to have

developed software materials to the extent of those planned for this project. Most have produced guides rich in resources to be used for orientational activities. Textbooks specifically addressed to this task have not been identified during this review. While many of the programs reviewed or observed are excellent and while several will provide usable ideas for inclusion or adaptation into the project, there exists no program which is synonymous to this undertaking.

Materials will continue to be reviewed as they are received and their relationship to the present project noted.

The Comprehensive Career Education Model (CCEM) Project at The Ohio State University produced a document entitled Developmental Program Goals for the Comprehensive Career Education Model--Preliminary Edition, August 1973. This document presents a set of major elements, themes, goal statements, and sequenced learning experiences by grade level. The academic and vocational curriculum is unified. No specific reference is made to the fifteen United States Office of Education career clusters (career clusters will be discussed in detail in chapter III), but significant portions of the information presented are applicable. The clustering system used has twelve divisions:

1. Government
2. Education
3. Health and welfare
4. Arts and humanities
5. Recreation
6. Personal services

7. Product services
8. Natural resources
9. Construction
10. Manufacturing
11. Transportation and commerce
12. Trade and finance

The Occupational Resource Manual developed by the Occupational Information and Guidance Services Center of the State of Hawaii details each of the fifteen USOE career clusters relative to specific jobs found in each. Presented for each are the job qualifications, promotional opportunities, employment outlook, working conditions, and current salary; each job is summarized. The Texas Education Agency supported a similar endeavor at Grayson County College in Sherman, Texas, through the development of the document, An Analysis of the Fifteen Occupational Clusters.

The Kershaw County School District in Camden, South Carolina, was one of fifteen selected as an outstanding career education program by the Center for Occupational Education. During grades one, two, and three, each student is exposed to the fifteen career clusters. A few are introduced at each level until all fifteen are covered. Grades four, five, and six then reemphasize the ideas and concepts presented during the earlier grades. In the middle grades (seven, eight, and nine), a rotational system is used to explore areas of work. This experience consists of a twelve-week experience in Basic Office Experience, then twelve weeks in Industrial Arts Education, and so on.

The Waterbury Board of Education, Waterbury, Connecticut,

published a document entitled Pre-Vocational Education. Although oriented toward specific target groups (special needs) and not related directly to any cluster approach, the document does present many useful procedures and curricular concepts.

The South Carolina State Department of Education, through the Office of Vocational Education, has developed two documents: Guidance and Suggestions for Implementing Prevocational Education Programs and Guidance and Suggestions for Organizing Prevocational Education Programs. Although the approach presented in these documents is based on traditional vocational service areas, they will still present many useful ideas and techniques.

The Pitt County Middle Grades Project (Pitt County, North Carolina) developed a curriculum guide for planning and providing occupational exploratory "hands-on" activities in a laboratory setting. The curriculum is one component of a comprehensive program; the other components are guidance, the fusion of occupational information and activities into all subject areas, and a curriculum materials center. The laboratory curriculum was developed, field-tested, and evaluated during the 1970-1971 school year. Each major occupational experience area is divided into several activity modules, with the students rotating through the modules until the experience in each occupational area is completed. The guide includes certain goals and objectives for each area of study and an overview including suggested aids, handouts, content, terms, and implications. An exploration program for the Eden City Junior High School (Eden City, North Carolina) is organized in a similar way.

The Division of Vocational Education, New Jersey State Department of Education, wrote and implemented an Introduction to Vocations Program for Grades 7, 8, 9. A teacher's guidebook has been developed which contains cycles geared toward the fifteen career clusters as identified by the USOE. The cycles vary from three days to three weeks and contain day-to-day activities and "hands-on" experiences for students.

The Illinois Occupational Curriculum Project published a document entitled Planning, Implementing, and Evaluating Career Preparation Programs in 1974. The publication is designed as a work manual with many forms and charts to be completed by those who use it. The manual is divided into five major parts: program management strategies, program identification, program development, program implementation, and program evaluation. The document is well designed and was extensively field-tested. Exact methodology and procedures (content) are not enumerated, but effective techniques for curriculum and program development are presented in usable form.

The Alabama State Department of Education, in May 1973, undertook a coordinated project effort in career education curriculum development through its "Worksheets for Career Education Curriculum Model Development." This document arranges elements, themes, and goal statements of career education by grade level. Task forces were assigned by grade level to develop listings of applicable experiences and activities addressed to the stated goals. More than eighty professionals were assigned representing all areas and levels of educational instruction.

The publication Help a Child Relate to the World, from the Region

V Educational Services Center in Lancaster, South Carolina, documents the total career education effort in that state. The publication is comprehensive and details each procedure followed throughout the development, implementation, and evaluation of career education projects in South Carolina.

The Career Development 7-8-9, a publication of the Hosterman Career Development Committee of Hosterman Junior High School in Minneapolis, Minnesota, is directed toward incorporation of career-related information into the mathematics, social studies, English, and science curricula. The document is oriented to career clusters using the USOE/Division of Vocational and Technical Education schematic breakdowns of each cluster as they relate to the four areas above.

A second publication from Minneapolis, "The Career Development Program" by the Departments of Counseling and Student Personnel and Psychology and Distributive Education at the University of Minnesota, specifies behaviors which characterize a series of twenty-eight vocational development tasks. These tasks are delineated by educational levels.

The Pontiac Career Development Program in Pontiac, Michigan, has developed a series of units by grade level stressing various occupational groups with specific titles. These units detail purpose, procedure, and outcomes and can serve as useful models toward cluster-oriented topics.

Hackensack Public Schools' Career Education Center in Hackensack, New Jersey, developed a series of units detailing objectives and operational steps. This series, also, is not directed toward an orientation

experience involving the fifteen clusters; however, it is a good example of format and mode of presentation.

A course of study entitled Exploratory Education for occupational, vocational, and technical education, published in three phases (one for each of grades six, seven, and eight) by the Board of Public Education of Pittsburgh, Pennsylvania, contains ideas and approaches suitable for this project. These documents have listings of specific objectives supplemented with planned student learning activities and subject area relationships.

The Knox County Department of Public Instruction, Knoxville, Tennessee, wrote a Curriculum Guide for Career Education for the middle grades. The guide takes ten concepts and lists basic understandings and learning opportunities for those concepts included. The concepts are addressed to bringing about attitudinal change.

The Houston Independent School District, Houston, Texas, published a Handbook for Career Awareness encompassing twenty-four units and listing teaching activities and sources for each. Although designed from a very general point of view for grades five and six, the handbook is an excellent resource document.

The Guided Occupational Orientation Program of the Syracuse, New York, City School District developed a teacher resource book entitled Careers Unlimited. The document includes seven career fields and is supplemented by an introductory planning guide, twenty-eight planning guides, and a packet of sample materials. The curriculum is taught in the regular classroom in the mathematics, science, social

studies, and English areas.

A Look at Career Education in Tennessee by the Tennessee State Department of Education pictorially presents a number of ideas for use in incorporating career education activities into the school curriculum.

Technology in the Elementary School, published by Price Laboratory School at the University of Northern Iowa, presents a working model for curriculum development, broad program goals, and four sample units.

A Program of Career Development in Portland Public Schools, Portland, Oregon, describes an effective approach to a total career development effort. The types and kinds of objectives and activities are varied and stimulate development of more specific and more practical, easily attained approaches.

Man and His Food Supply is one of a series of pupil materials published by the Los Angeles City Schools for the social studies curriculum. These documents, along with many others, are examples of the wealth of information and material available as resources for an effective curriculum development effort although the relationship to career education is not overt.

In 1973, the Maine Department of Vocational Education, through the College of Education, University of Maine, undertook a coordinate project in career education. A Curriculum Guide for Grades K-12 was developed. The materials were researched and developed by personnel in selected Maine public schools. For the middle schools there are twelve different units which can be fused into the existing curriculum: grades kindergarten (K) to five develop career awareness, grades six to

nine center on career exploration, and grades ten to twelve are concerned with career preparation.

In 1974, the Curriculum Development Center, Vocational Education, University of Kentucky, developed five documents dealing with career education:

1. Comprehensive Career Education
2. Implementing Career Education: Procedures and Techniques
3. Career Awareness: Suggestions for Teachers
4. Career Exploration: Suggestions for Teachers
5. Career Preparation: Suggestions for Teachers

In addition, booklets for each of ten clusters were developed. Each of these teacher's guides included information about the cluster, suggested content, activities, evaluation, and resources and supportive materials for each unit.

Books and Periodicals

In addition to the projects reported above, several major publishers have materials that have been reviewed for relevance. The more significant of these are listed in the appendix.

Systems and Kits

Several manufacturers and publishers have available complete systems or kits of information and materials for career education. The following items have been obtained, reviewed, and found applicable.

1. Science Research Associates' Career Information Kit
2. Interpretive Education's Career Education Series

3. McKnight's Career Programs
4. Careers, Inc.'s Business, Industrial, Science and Health Careers Kit
5. McGraw-Hill's World of Work Kit
6. Chronicle Guidance Publications' Occupational Brief Kit

Virginia Projects

Several school divisions in Virginia are providing career orientation and/or career education programs. There exists a variety of programs, serving different groups of students and funded by various sources. Brief descriptions follow.

Roanoke County is in the process of establishing a developmental program for career education in grades K to twelve. The program is unique in that it is locally funded and was initiated by the school administration. There are two basic components within the program: the curricular component and a series of decision-making activities. The curricular component consists of information and activities concerning awareness of career clusters related directly to the curriculum. For these activities, the social studies curriculum was initially chosen. The decision-making activities via local guidance services are carried out in group guidance situations and consist of identifying and creating alternative choices, evaluating information, investigating the student's value system, and identifying critical decision points.

Personnel were oriented to the project by in-service workshops and several seminars for all counselors were held. Involvement of teachers and of counselors was considered to be the key to a

successful career education program.

Bedford County, under Title III, Elementary and Secondary Education Act, Public Law 89-10, has developed a series of color videotapes concerned with the fifteen USOE career clusters for students in grades K to eight. The programs are divided into three different series in order to introduce students to careers. In the first series, twenty programs have been developed for students in grades K to three. In the second series, twenty programs are available for students in grades four to six. In the third series, twenty programs have been developed for students in grades seven to eight. Through instructional television station WBRA in Roanoke, the tapes can be viewed, not only by teachers and students in Bedford County, but in the schools of the twenty-two participating divisions of the Blue Ridge Educational Television Association. A teacher's guide is available for each series of programs. A curriculum committee composed of representative teachers from each grade level (K to eight), the project director, principals, and supervisors provides guidance to the staff at WBRA-TV. A program is designed for each of the career clusters developed by the USOE. All programs will be field-tested by the teachers and students in the Bedford County Schools during the production year.

The City of Petersburg has a funded project that is one of two set up in Virginia by USOE funds. The materials were developed through teacher workshops. One of the special services associated with this project is a resource clearinghouse where one person coordinates all of the field trips and identification of resource people for the classroom.

Business and industry have been very cooperative in the project.

Carroll County has developed the Career Development Information Center which is funded under the Elementary and Secondary Education Act, Title III. Its objectives are: (1) to make available multimedia career information resources, (2) to provide services to complement the school's guidance program, and (3) to provide realistic work experience for a number of students as counselor assistants while establishing and operating a career information center. The center utilizes free brochures, microfiche and view decks, filmstrips, tapes, information kits, and posters, as well as career games.

Radford City Schools were funded by the USOE to conduct a research and development program in career education. The funds were provided through part C of the 1968 Vocational Education Amendments. The initial project, which began in 1972, is being implemented at one elementary school and includes all teachers and students in that school. Three levels of special education are also included in the project. The project was expanded during the 1973-1974 school year to include all elementary schools and the eighth and ninth grades at the junior-senior high school. Workshops have been conducted for teacher orientation to the project. In one four-week workshop, teachers developed forty elementary instructional units to be used in conjunction with the existing curriculum. Another workshop resulted in teachers being placed in work situations throughout the community. A career education center has been developed in an annex to the existing library.

Conclusion. While it is important to recognize the contribution being made by the projects now operating within the State of Virginia, it should be noted that none is addressed specifically to orienting young people to exploratory courses. It is mandatory that materials be prepared to provide such a curriculum for state-wide use, and that a career orientation experience be made available for all middle and junior high school students.

The Learner

As one considers what has been done and what is to be accomplished--specifically the design of a year-long career orientation experience for early secondary school students, the nature of that particular age learner becomes of utmost important. It is therefore appropriate that this aspect also be addressed.

Principles underlying the development and behavior of this age youth have been identified from research and observations made over the past seventy-five years. They are summarized by Hurlock:

Development is similar for all, following genetic sequences, yet, because of environmental influences, each child is unique.

Development is continuous, occurring in stages; children normally pass through each stage, often at different rates. Each stage has characteristic traits.

There is correlation among the rates and phases of the various structures and functions, and the maturity of one facet affecting others, resulting in uneven growth tempo.

The rate of development is usually highest at the onset, closely associated with the principle of indigenous motivation which may cause a child's use of emerging developmental abilities to appear exaggerated and intense.

Behavior is largely controlled by human needs and is a function of developmental status.

Particular attention should be given to the third principle noted,

i.e., the marked unevenness of development of early adolescents.

Progress made in one area of growth may affect the growth of another aspect.

Havinghurst (1952) has identified three main thrusts which affect a child's development:

Social: thrusting the child out of the home environment into the peer group.

Physical: placing the child into the world of games and work requiring neuromuscular skills.

Intellectual: assimilating the child into the world of adult concepts, logic, symbolism, and communication and its psychological environment and structure.

He has further noted "developmental tasks." Those associated with middle childhood are summarized below:

1. Learning physical skills necessary for ordinary games and for use of simple manipulative tools; most children learn these skills from the peer group
2. Building wholesome attitudes toward oneself as a growing organism
3. Learning to get along with age-mates; developing a social personality
4. Learning an appropriate masculine or feminine social role
5. Developing fundamental skills in reading, writing, and calculating
6. Developing concepts necessary for everyday living--acquiring a store of concepts, sufficient for thinking effectively about occupational, civic, and social matters
7. Developing conscience, morality, and a scale of values; while reward and punishment by parents are important in the development of these characteristics, peer pressure is also influential
8. Achieving personal independence--able to make plans and follow them and to act independently of parents and other

adults to some degree; school, peer group, and youth organizations provide laboratories for working through this task

Youth will differ in their skillfulness in these undertakings. Adult attitudes, opportunities for practice, and incentive can greatly alter the child's characteristics which may be dictated by heredity and the limitations imposed by his environment. Failure to recognize the unevenness and the scope of development in early adolescence could assure the doom of any curriculum project for this group.

Characteristics of Middle Childhood and Early Adolescence

Another helpful way of analyzing middle childhood characteristics is to look at the physical, intellectual, and social aspects of development.

Physical. All aspects of growth are integrated and similarly affected by heredity, health, exercise, and nutrition; however, the various parts of the body have individual growth rates. For example, increasing shortsightedness at puberty is thought to be due to growth of the eye. During middle childhood, hands and feet grow rapidly. Central nervous system maturation directly affects behaviors such as readiness to apply oneself to tasks (Simon, 1959).

The rapid changes in body proportions tend to result in some awkwardness and clumsiness during adolescence. This factor coupled with the fact that girls tend to be taller and stronger than boys during this time affects motor skills. It is a time for skill perfection with many levels of achievement being represented among children of this age.

Motor skills are very important as they allow entrance into activities, games, and projects. Lack of these skills at an acceptable level may exclude children from many peer group functions and in turn have a negative impact upon personality development.

It is important to realize that physical skills vary from month to month, that physical development will vary from group to group, and that energy levels will vary from day to day (Blair et al.). Therefore, it is reasonable to expect inconsistency in enthusiasm for, and interest in, activities requiring psychomotor skills or energy.

Intellectual. Mental development continues to be a priority among the many concerns of those working and living with young people. The society as a whole necessarily places a great value on mental abilities. Definitions and principles will be described on the following pages.

The danger in current attempts to enrich public school curricula lies not in the content proposed, but in the failure to recognize that "each level of development contributes its own special understandings of that content" (Almy, 1961). In short, interpretation differs with maturity.

Children, of course, are not small replicas of adults as far as their mental development is concerned. They are quantitatively and qualitatively different and change as they grow. Almy (1961) further suggests that we are often deceived by our own ideas in relation to how children think and perceive.

IQ tests have long been the center of much discussion. Often, they have been given an aura of importance which they do not merit. Several points need to be clarified concerning them. Often IQ tests are used as instruments of prediction, when in fact they measure performance. This performance may be affected positively or negatively to some degree by several factors: the young person's past experience or lack of experience in taking tests, the tester's expertise in the use of the test materials and his expectations of the child's performance, and the anxiety level of the tester or the student. Social and/or ethnic background may also affect scores because of language or life style differences.

If IQ test items are used to develop behavioral objectives, their predictive value for such fields as music, industrial arts, and trade and industrial education is much less accurate than for such academic areas as literature or mathematics (Mussen et al., 1969).

In recent years, testing results have been questioned as it has become apparent that many nonintellectual factors affect test performance. There is continual danger in placing too heavy a reliance upon test scores as determiners of student capabilities. Instead, they should serve as indicators which reveal differences in mental development and functioning which, in turn, should contribute to better counseling and the development of more appropriate educational plans for the individual. In fact, often it is not necessary or even desirable to use an IQ score to determine a student's course of study.

Expectations of the teacher in relation to the young person's performance can be a very important factor, negatively or positively. If teachers are told what to expect of students, there is support of the idea that the students will indeed perform at the level of the teacher's assessment of their abilities. In one study (Rosenthal and Jacobson, 1968), elementary school teachers were told that according to test results, five children in their classes were expected to exhibit unusual intellectual accomplishments. Actually the children had been selected at random and really differed from their classmates only in the minds of their teachers. Group IQ tests administered by the teachers revealed a significantly higher gain by the students for whom high expectations were held. While innate abilities of the children cannot be discounted, it is appropriate to emphasize the major importance of the student-teacher relationship.

There is no direct evidence which supports the view that there is an innate difference between members of different racial groups (Council of the Society of Psychological Study of Social Issues, 1969). Differences in intelligence test scores diminish markedly when educational and cultural backgrounds are similar. Differences in social settings prevent members of all races from leading comparable lives. Only when more equitable social conditions have existed for several generations will it be possible to make a more accurate assessment of the contribution of heredity to intelligence. From the moment of conception, however, environmental factors begin to influence development, resulting in the lifelong interaction of environment and

heredity.

Because of the importance of environmental factors in intellectual development, Landreth (1967) has suggested the following as ways of fostering the development of intelligence:

1. Providing first-hand experiences and urging students to generalize from them in their own words
2. Encouraging conversations with adults
3. Sharing students' pleasure in their achievements
4. Helping them learn to delay gratification, thus to think in terms of long-range goals, rather than short-term ones

Piaget's experimentation on the nature of intelligence has become widely respected. He believes intelligence to be "one kind of biological achievement, which allows the individual to interact effectively with the environment at a psychological level" or "the form of equilibrium toward which all cognitive structures tend." Equilibrium is the term he uses to express "a harmonious adjustment between a person's mental actions (cognitive structures) and his environment." Piaget believes that when the environment disturbs his equilibrium, the person can perform certain mental actions to restore the balance. These processes are evolutionary in nature--continually moving toward more complex levels. According to Piaget, mental activity is also a component of intelligence; knowledge is discovered and constructed through the activity of the child. Therefore, Piaget's view of intelligence involves "biological adaptation, equilibrium between the individual and the environment, gradual evolution, and mental activity" (Ginsberg and Oppen, 1969).

The central theme of Piaget's work is that intelligence is developmental in nature. Children move through one stage into the next and it is possible to influence this process. However, it is important to realize that not everything can be assimilated by a person at a given point in his development. "He can take in only that reality which his current structure can assimilate without drastic change" (Williams and Stith, 1974).

Piaget conceptualized various stages, or phases, of cognitive development. These stages are invariant, but children may move through them at different tempos dependent upon social environment, physical health, and growth speed. Each previous stage serves as a foundation for the one which follows and there are no clear-cut delineations. "Children may exhibit a number of cognitive behaviors simultaneously--some characteristic of one stage, others representative of a higher level of function" (Williams and Stith, 1974).

Young people at middle or junior high school age will be functioning within the "concrete operations" period and moving into "formal operations." Flavel (1963) describes the periods:

Concrete operations: characterized by logical thought in relation to concrete things, use of operations of classification, seriation, hierarchical arrangements; emergence of the scheme of reversibility.

Formal operations: during this period, the adolescent learns to deal with pure possibility, abstractions, propositional statements. Where the concrete operational child can deal effectively only with the reality before him, the formal operational child is not limited in this way.

According to Piaget's theory, development from one stage to the

next involves four processes: maturation, experience, social transmission, and equilibrium--finding a link between things already understood and new ideas. Pulaski (1961) maintains that

a child is not capable of thinking like an adult because he simply does not have the logical structure, the organization of thought, and the methods of reasoning which would enable him to deal with adult problems.

Farnham-Diggory (1972) suggested that experience is related to background and sex. The interaction between where a child lives and what sex he/she is dictates in part his/her experiences. In turn, these determine the kinds or types of enrichment that can be effectively used in the student's education. Age and social class also are important considerations to note in the predictability of experience.

To bring order out of the vast amount of information one collects, a system of concepts must be developed. These concepts are regarded as the fabric of mental life; they serve to carve up the person's world into functional units (Williams and Stith, 305). Harvey, Hunt, and Schroeder (1961,1) stated: "A concept is a system of ordering that serves as a mediating linkage between the input side (stimuli) and the output side (response)." According to Burton (1974), intellectual activity is marked by certain changes during middle childhood years: a seeking for reality, increasing use of causal relationships in physical and mechanical fields, and increased reading skills. These changes contribute to rapid growth in concepts, of particular importance to this project.

Vinacke (1954) defined concepts as "cognitive organizing systems which serve to bring past experiences to bear upon a present stimulus object." Concepts organize information and feelings about objects, places, qualities, and relationships. They may be definite or indefinite (Hurlock, 1964).

Russell (1956) characterized the development of children's concepts as changing in several ways:

1. Simple to complex
2. Concrete to abstract
3. Undifferentiated to differentiated
4. Discrete to organized
5. Egocentric to more social (Hurlock, 1964)

Vinacke (1954) further noted two other changes which may take place: (1) movement from variable to more stable concepts and (2) movement from inconsistent to more consistent and accurate concepts.

To further understand the complexity of human intelligence, a model depicting its structure, as conceived by Guilford, is appropriate (figure 1). "Operations" are given at the top, "products" along the vertical axis, and "contents" are labeled at the bottom of the cube. This cubical model produces 120 cells or intelligence factors. It is evident from study of this model that the human intellect is extremely varied and complex. Psychomotor variables are not explicitly noted in this model (Towers, 1966), figure 1.

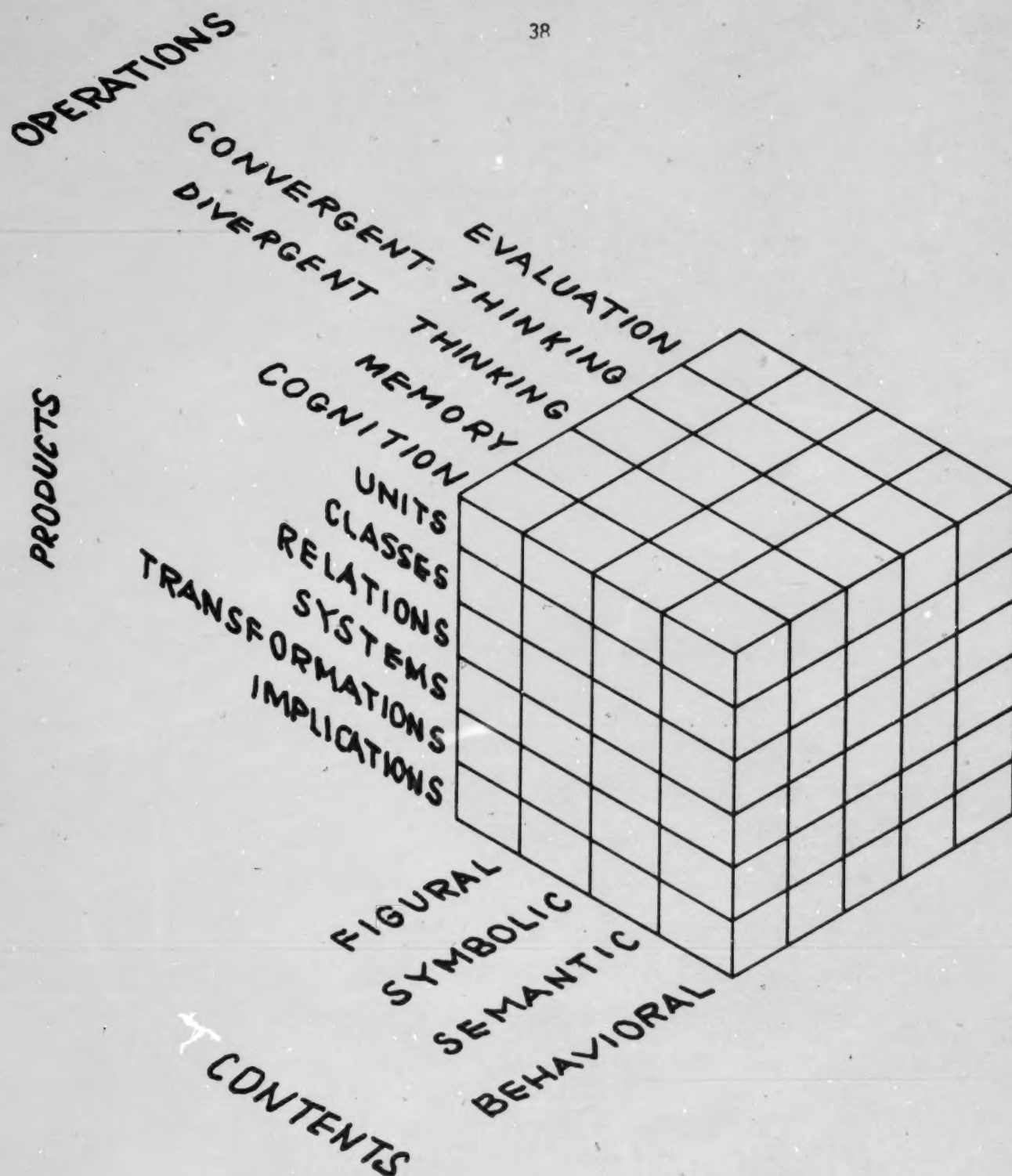


Figure 1

A Cubical Model Representing the Structure of Intellect
(Guilford, 1959, 470)

Differences in language development will be present among children in any specified age group, ethnic background, socioeconomic level, and level of development. All play important roles in the child's world of communication. Differences in ability to communicate or to understand what is being "sent out" quite logically are the results of environment and all past experience.

An almost unsurmountable language gap exists for black youth. There are distinct differences in black English and standard English. Although scholars have traditionally thought black English to be inferior in grammar and pronunciation, there is a recognition that language forms are a part of one's culture. Differences in sound in black English result partly from anatomical differences in the vocal mechanisms, according to Marshal Howard (Askins, 1972), a black linguist. Another cause of sound variations comes from the African heritage of a musical, fluid language. "Th" is pronounced "d" at the beginning of a word ("dem" instead of "them"), "v" in the middle of the word ("muvver" for "mother"), and "f" at the end ("mouf" instead of "mouth"). Word meanings also differ.

Memory is another facet of intelligence which demands at least a brief discussion. According to Conger and Kagan (1969), memory varies from individual to individual because of five dimensions:

1. Differences in available mediational units or their use
2. Anxiety
3. Focused attention

4. Susceptibility to distraction

5. Motivation

Another sign of the ability to communicate and reason is a sense of humor. The construction of a joke is one of the most complex products of the logical functioning of the human mind. Arranging the steps or progressions involved in a joke requires a degree of logical maturity. Laughter is essential to good mental health and the importance of a "good laugh" is not to be overlooked. This is another way for children to relate to the world. Some laugh quite easily and "figure out" jokes quickly; for others, it is difficult to find humor in everyday life. Humor can be a great facilitator in establishing positive relationships among children and between adults and children.

Curiosity, that quality of searching and questioning that is so refreshing in children, is often dealt a deadly blow in school.

What happens is that it is destroyed . . . by the process we misname education--a process that goes on in most homes and schools. We adults destroy most of the intellectual and creative capacity of children by making them afraid, afraid of not doing what other people want. We make them afraid to gamble, afraid to experiment, afraid to try the difficult and unknown (John Holt, 1967).

Sylvia Ashton-Warner, in her book Teacher (1963), writes warmly and with understanding about children's ability to learn.

They have so much inside, so much locked in. If only I could get it out and use it as working material and not draw it out either. If I had a light enough touch, it would just come out under its own volcanic power.

There are few tests or measures that can predict or determine the level of creativity within a child. It is an intellectual quality most

often discovered through observation. The nature of creativity makes it a difficult component to remove from the broader realm of mental characteristics. Being intelligent, as defined in the traditional sense, is not the same as being creative, though a child may possess both qualities (Williams and Stith, 1974).

It is appropriate in summary to emphasize the vastness and complexity of the realm of human intelligence. There are no perfect recipes for insuring that children will use their intellectual characteristics succinctly. However, it has been said that certain principles must be considered if learning is to take place:

1. Material must be relevant
2. Learner must be active
3. Activity must be pleasurable
4. Valuing as well as knowledge must be involved
5. A significant human relationship must be involved
6. The learner must feel respected (Ack, 1970)

Social. The concept of social development is broad in scope, somewhat elusive and fragmented, and therefore difficult to define in a straightforward manner. Within this concept, many components merge to produce the individual as he functions within his society. A child's seeking for self-identity is closely related to parental and peer influences, to his abilities--both physical and intellectual, to his physical appearance, and to the successes and failures he/she has experienced previously.

Especially during the period of adolescence, there is a concentrated striving to determine "who am I?" Erik Erikson, the gifted psychoanalyst, has termed the problem "ego identity" (Mussen, Conger, and Kagan, 1974). In Erikson's words,

the identity the adolescent seeks to clarify is who he is, what his role in society is to be. Is he a child or is he an adult? Does he have it in him to someday be a husband or a father? What is he to be as a worker and an earner of money? Can he feel self-confident in spite of the fact that his race or religious or national backgrounds make him a person some people look down upon? Overall, will he be a success or a failure? By reason of these questions, adolescents are sometimes morbidly preoccupied with their own conception of themselves, and with how they can make the rules and skills learned earlier jibe with what is currently in style (K. Auchincloss and L. T. Empey).

Erikson has set forth a most realistic and uncomplicated personality theory. He postulates that people move through these eight senses: trust, autonomy, initiative, industry and accomplishment, identity, intimacy, generativity, and integrity (Elkind, 1970). Students will generally be moving from industry and accomplishment into identity as they enter the career orientation experience. This psychological growth into the society is called socialization and is a necessary component, at least to a minimal degree, of the productive, independent individual.

Peers play an important role in the psychological development of most adolescents. As children move from childhood into preadolescence, influences of the peer group become stronger, since ties with parents become progressively looser and greater independence from parents is

achieved. The peer group provides an opportunity for many satisfactions. Young persons find others with similar interests and with their own level of social and intellectual development; they find the personnel for group activities (Mussen, Conger, and Kagan, 1974).

Peer importance and influence does not eradicate the strong relationship which still exists between middle school and junior high school age individuals and their parents. In fact, there is often considerable overlap in influence between the preadolescent's parents and his peers because of social, economic, religious, educational, and even geographical commonalities in their backgrounds (Elder, 1961).

While the individual is seeking self-identity through peer and family relationships within the broader scope of society at the junior high level, he must also begin to make tentative career selections; discovering, exploring, and grasping the concept of career choice within the adult world are important steps for the student.

Concluding Statement

Prior to describing the structure of the proposed career orientation experience, pertinent terms such as "career," "vocation," "orientation," and "exploration" must be understood. This is especially true since many times they are misused. It is also important to grasp the extent of the effort which has been made by the educational community to help young people in their career development.

The nature of the learner, especially the early adolescent, is of extreme importance also as background information prior to the discussion of the actual structuring of the orientational experience. As so aptly put by Bailey and Stadt, "the issue is not whether to accept the theories, but rather how to apply knowledge of the theories."

CHAPTER III

STRUCTURING A CAREER ORIENTATION EXPERIENCE

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Implications for Curriculum Development

Many implications can be drawn from the broad scope of characteristics which typify the preadolescent as described in the foregoing section. It is appropriate to cite several that may serve as the bases for the development of the proposed curriculum.

The Nature of the Learner

First, several guidelines may be drawn from the concepts included in the discussion of the nature of the middle school-junior high school learner.

1. Developmental tasks of middle childhood and preadolescence should provide a foundation for the curriculum
2. Students should be actively involved in the process of learning
3. Activities need to foster social, physical, and intellectual development as well as career development
4. At the junior high school level, there is rapid growth in concept development and there is movement from concrete to abstract mental operations
5. Activities with a wide scope of psychomotor skill requirements should be included--activities with fine motor skill requirements should be included as optional undertakings
6. Children's ability to communicate effectively with peers increases with age and opportunities for appropriate experiences should be provided
7. Student background experiences will vary with age and across social classes

8. Curiosity must be encouraged and fostered through innovative approaches to teaching

Career Development

Also implicit to the development of the curriculum is the consideration of various theories of career development. Super has proposed the idea that a person strives to implement his self-concept by choosing to enter the occupation seen as most likely to permit self-expression. His suggestion is that the behavior a person exhibits to implement his vocational self-concept is a function of the individual's stage of life development.

Super generated ten propositions which should underlie any vocational development theory (Osipow, 1973, 134). They are:

1. People differ in their abilities, interests, and personalities
2. Persons are qualified in a number of occupations
3. Each occupation requires a characteristic pattern of abilities, interests, and personality traits with tolerances wide enough to allow for both some choice of occupation and a variety of individuals suitable for each occupation
4. The self-concept, and hence vocational preferences and competencies, changes with time and experience, making choice and adjustment a continuous process
5. This changing process may be summed up as a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline--the exploratory stage may be subdivided into the fantasy, tentative, and realistic phases; the establishment stage into the trial and stable phases
6. The nature of the career pattern (that is, the occupational level attained and the sequence, frequency, and duration of trial and

and partly by aiding in reality testing (the try-out experience) and in the development of the self-concept

8. The process of vocational development is essentially that of developing and implementing a self-concept; it is a compromise process in which the self-concept is a product of the interaction of inherited aptitudes, neural and endocrine makeup, opportunity to play various roles, and evaluations of the extent to which the results meet with the approval of superiors and fellows
9. The process of compromise between individual and social factors, between self-concept and reality, is facilitated by try-out experiences; try-out experiences may be simulated
10. Work satisfactions and life satisfactions depend upon the extent to which the individual finds appropriate outlets for his abilities, interests, personality traits, and values; they depend upon his establishment in a type of work, a role which his growth and exploratory experiences have led him to consider congenial and appropriate

While Super's theory has validity and will serve as a major force to give structure to the curriculum, it is also important to note others. The situational approach to career development describes factors outside the individual, over which he has no control, as dictating career choice. These factors include social class membership, sex, race, finances (sometimes), the state of the economy, and even where the individual lives (Osipow, 1972).

Of particular interest is Holland's personality-type theory. His hypothesis expands the idea that particular personality types gravitate toward particular work environments described earlier. They are:

1. Realistic: characterized by aggressive behavior and interest in activities requiring motor coordination, skill, and physical strength
2. Investigative: characterized by thinking rather than acting, organizing and understanding rather than dominating and persuading and asociability rather than sociability
3. Social: characterized by having to satisfy one's need for therapeutic situation; people seem to seek close interpersonal situations and are skilled in their interpersonal relations

4. **Conventional:** characterized by a great concern for rules and regulations, great self-control, subordination of personal needs and a strong identification with power and status
5. **Enterprising:** characterized by a great manifestation of verbal skills, in which they are used to manipulate and dominate those around him
6. **Artistic:** characterized by having strong self-expression and relations with other people indirectly through artistic expressions

Holland's perspective differs from traditional guidance in that he stresses the manipulation of the environment to suit these types rather than counseling students to plan their experiences in keeping with interests, abilities, and so forth.

Career Development

From occupational psychology, then, the following principles can be identified as helpful in curriculum design:

1. A wide variety of career-related experiences must be offered
2. The concept of changing career needs must be grasped
3. Educators can affect only the availability of try-out experiences and "models"
4. Educational planning and career planning must be part of the experience
5. Recognition of prominent personality characteristics as they relate to career selection must be provided for
6. Activities must offer comprehensive opportunities to test the self-concept
7. Work environments as a primary characteristic of careers must be a prominent feature of the curriculum

Relevant Studies in Career Education

Because of the impetus provided by career education, several guidelines can also be stated from those studies already done relating

to exploratory experiences as well as orientational courses. First, however, the concept of clustering, which is so basic to any orientational program, must be reviewed.

Of particular interest to this curriculum design effort are the implications of the clustering. Many classification systems which are now in existence are sophisticated and detailed in nature. Most often, such systems utilize industries as the basis for indexing information.

Bureau of Census

The Bureau of Census has historically included twelve broad categories as one of its systems. These are:

1. Agriculture, forestry, and fishing
2. Mining
3. Construction
4. Manufacturing
5. Transportation, communications, and public utilities
6. Wholesale/retail trade
7. Finance, insurance, and real estate
8. Business and repair services
9. Personal services
10. Entertainment and recreation services
11. Professional and related services
12. Public administration

Almost eighty subdivisions exist with about five hundred further categories.

The Census Bureau further describes occupational information in alphabetical order by occupation and industry. This system is used for different purposes, but does identify specific industries such as construction and the garment industries which, in turn, are correlated to occupations within each--carpenter and commercial seamstress, for example.

The index itself refers to descriptions found under broad categories of occupations such as those listed below:

1. Professional, technical, and kindred workers
2. Farmers and farm managers
3. Managers, officials, and proprietors
4. Clerical and kindred workers
5. Sales workers
6. Craftsmen
7. Foremen
8. Private household workers
9. Service workers
10. Farm laborers and foremen
11. Laborers (Norris, 1966)

Dictionary of Occupational Titles

Popular in guidance use, the Dictionary of Occupational Titles (D.O.T.) describes more than 35,000 occupational titles in its latest edition (U.S. Department of Labor). The arrangement of titles into categories has been made to facilitate easy reference.

The classifications used by the D.O.T. are:

1. Professional, technical, and managerial
2. Clerical and sales
3. Service
4. Farming, fishery, and forestry
5. Processing
6. Machine trades
7. Bench work
8. Structural work
9. Miscellaneous

Each is subdivided into categories, and, further, into specific occupations. The complexity of the work required is also coded for each career, as are "worker traits" for groups of occupations.

Other Classification Systems

Other classification systems have been devised for specific uses. Sociologists utilize a division of occupations based on levels of work including (1) professional, (2) semiprofessional, (3) clerk, (4) skilled worker, (5) proprietor, (6) semiskilled, and (7) unskilled. Some systems lean toward types of work: scientific, social welfare, literary, esthetic appreciation, and others.

All of these systems have been designed for the extraction of specific information, not necessarily for educational use. They rest, therefore, on the assumption that those who use them already have the background required to pursue additional information. In terms of providing a clue to the restructuring of the educational curriculum into a career education framework, they offer little.

United States Office of Education

In 1971, the Office of Education took the position that the most appropriate approach for career education would be through "areas" of work. Accordingly, the "cluster" classification for careers was proposed. The four basic requirements of "any scheme" to organize careers were noted at the time as being that it

1. encompass all the jobs in the Dictionary of Occupational Titles;
2. include jobs at all levels, from entry level through skilled jobs, technical jobs, and professional jobs;
3. be related to an identifiable group of employers in the community and
4. be enduring over time.

The clusters listed below not only include levels of work, the types of employment, and all industrial areas, but also include other classification systems already in use in education. Those in vocational education, for example, include health, distributive education, office education, and agriculture; others included in industrial arts are manufacturing, construction, communications, and transportation.

1. Agri-business and natural resources
2. Business and office
3. Communications and media
4. Construction
5. Consumer and homemaking
6. Environment
7. Fine arts and humanities
8. Health
9. Hospitality and recreation
10. Manufacturing

11. Marine science
12. Marketing and distribution
13. Personal services
14. Public services
15. Transportation

The need for interrelating the three aspects discussed, the nature of the learner, occupational psychology (and in particular, career development theory) and career education "tenets" becomes evident when one examines the career clusters. Within a given occupational cluster, for example, one should expect to find the following:

1. Many jobs that are related should appear
2. Common competencies and skills are applicable to any one of several jobs in that occupational cluster and a given level in that cluster
3. Basic vocational skills that are developed for specific application in the given occupational cluster and at a given level, but which may also be applicable to other clusters at the same or similar levels in that cluster appear
4. Specific competencies and skill development in three areas of knowledge, namely the cognitive, affective, and psychomotor domains, or as the Department of Labor notes, skill development that relates to data, people, and things are included
5. The basic competencies and skills may be identified that apply to all clusters (general academic preparation); the Department of Labor notes the three areas of reasoning, mathematical, and language development should appear
6. The clusters of occupations and also the levels within the clusters can be related to primary root academic disciplines and secondary or related academic root disciplines (Stevenson, 1973)

What is implied is that a means or vehicle is needed to identify similarities throughout the clusters to be used. Regardless of the cluster system used, the orientation course should be valid.

TABLE 1
PROJECT PHASES

PHASE I July 1, 1974- June 30, 1975	PHASE II July 1, 1975- June 30, 1976	PHASE III July 1, 1976- June 30, 1977
I. Identification of Body of Knowledge	I. Field Test Total Articulated Curriculum	I. Identification of Initial Field Sites
II. Identification of Test Sites	II. Continued In-Service Training of Participating Teachers	II. Implementation
III. Development of:	III. Revision of Materials	III. Regional Workshops
A. Rationale	IV. Identification of Six Additional Field-Test Sites	A. Supervisors
B. Student Materials		B. Guidance Personnel
C. Activity Manual		C. Curriculum Specialists
D. Teacher's Guide		D. Teachers
IV. In-Service Training of Participating Teachers		E. Evaluation Personnel
V. Limited Field Testing		IV. Final Revision
		V. Publication/Dissemination

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The complete, field-tested course will be available to all Middle and Junior High Schools in the State of Virginia for the 1977-1978 school year.

Career Education

From career education, then, the following guidelines emerge:

1. A system of organizing subject matter must be used--the USOE career clusters, in this case
2. A teacher's guide must be developed to aid implementation
3. Self-instructional student modules are appropriate for activity-oriented experiences
4. The experience must be able to be articulated with vocational, exploratory, and academic experiences
5. Much material which is appropriate has been generated and should be utilized
6. The orientation course should seek to blend occupational psychology, educational psychology, and career education

These implications for the design of the CACO experience are of particular importance. The relationship between each and their comparative emphasis constitutes the major task of the effort.

Parameters of the Experience

The project has as its major objectives the identification of a body of knowledge suitable for orientational purposes, the design of a total curriculum for the course, and the development of the necessary software to accompany its implementation. Subsequent year's activities propose extensive field testing and a comprehensive implementation framework. The project is divided into three distinct, yet dependent, phases as described in table 1.

Basic Assumptions

It is necessary to establish the assumptions upon which this curriculum effort is based. The following list reflects such ideas and concepts:

1. Career development is a process spanning the whole of an individual's learning and producing life
2. Orientation to careers, as a part of career development, is also a process
3. This process of orientation can be identified and described in clearly defined steps or phases
4. Career clusters, as defined by the USOE, are sufficient as one basis for a comprehensive introductory program
5. Orientation and introduction experiences are best suited for students of the middle school age levels
6. Career orientation and introduction programs can be carried out in the average classroom with regularly certified teachers
7. In-service preparation for teachers of new curricular endeavors is a required prerequisite for implementation after 1977
8. Young persons have developed a self-concept (even though incomplete) as a result of their elementary school experience
9. Young persons of this age are at a "tentative decision" stage in their career development
10. "Try-out" experiences are very meaningful in career selection and represent one of the few variables which educators can address themselves to in curriculum development

Limitations

The curriculum will be designed within certain limitations which should be clarified at this time:

1. Course configuration: the course will be one school year in length, however, it will be designed to permit entrance and exit of students at appropriate times
2. Teacher: the course will be designed to permit any certified teacher to teach it with no constraints as to subject-matter background; teachers shall be prepared through a CACO-sanctioned in-service workshop, however
3. Cost: the cost of the course will be kept to a minimum; costly equipment will not be used
4. Activities: student activities will be largely of the simulation type, with numerous opportunities for active, interpersonal types of experiences for students

5. Grading: the nature of the experience will be such that a pass/fail or satisfactory/unsatisfactory grade would be most appropriate
6. Facilities: a regular classroom with movable furniture will be consistent with the course design
7. Instructional material: teacher guides and student workbooks containing self-instructional modules will be available; suggested materials--kits, games, etc. will be provided
8. Grade level: junior high school or middle high school youth will be suitable students for the experience

Test Sites

In-service work will be provided for all teachers. Graduate credit will be awarded teachers upon request and after meeting the specific requirements for the course EDVT 5770, Problems in Education. Initially, ten test school divisions will be used (figure 2). The schools concerned are:

<u>Schools</u>	<u>School Divisions</u>
Elkhardt Middle School	Richmond City
T.H. Henderson Middle School	Richmond City
Hilton Combined School	Scott County
Greensville County Jr. High	Greensville County
Ladd Elementary School	Augusta County
Lake Braddock Secondary School	Fairfax County
Machipongo School	Northampton County
Montevideo High School	Rockingham County
Rippon Middle School	Prince William County
Thorpe Junior High School	Hampton City
Woodlawn Intermediate School	Carroll County

Advisory Committees

Of particular importance to any curriculum design effort is communication within and among the various groups directly affected. Because of this, and because of the expertise which exists within the State Department of Education, the university community and the local

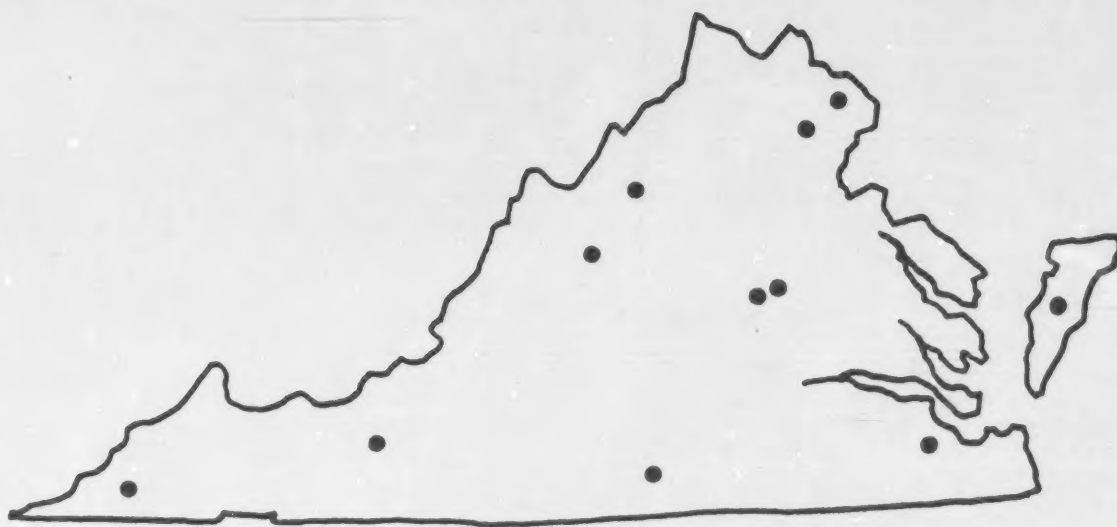


Figure 2

Field-Test Sites

community, two informal advisory committees were formed early in the life of the project:

1. State Department of Education: membership is made up of representatives from each division, each vocational department, and the Supervisor of Career Education.
2. Virginia Polytechnic Institute and State University: each department within the College of Education is represented and each service area within the Vocational and Technical Education Division is included.

In addition, a formal advisory committee was formed to provide broad-based input from the community. Its membership is primarily made up of interested citizens from business and industry.

These advisory committees meet periodically to comment upon the progress of the effort and to contribute their individual and collective suggestions.

Concluding Statement

This curriculum design project must function within certain parameters in developing an orientational curriculum which is meaningful to the learner: preadolescent boys and girls. The guidelines generated from an examination of career development theory and career education must be used as well as the expertise of the various members of the advisory committees established for this purpose. The foundation for the curriculum, in terms of organization, has been painstakingly laid which will make the task that much more efficient.

The orientation course has been named "A World of Choice: Careers and You". (This title was selected with the help of the advisory committees, field test teachers, the staff, and other interested persons.)

CHAPTER IV

EXAMINATION OF STRUCTURE:

CLUSTERS APPROACH TO CAREER ORIENTATION

CHAPTER IV

EXAMINATION OF STRUCTURE:

CLUSTERS APPROACH TO CAREER ORIENTATION

Goals of Curriculum

The goals of the curriculum are based upon that phase of career development appropriate to early secondary students; that is, on the assumption that some career awareness has occurred--planned or not--along with a certain degree of self-awareness. The "tentative selection" stage is thus the phase of career development to which this experience is addressed.

The specific goals include:

1. The development and continual evaluation of a career-related personality profile
2. The investigation of the several occupational styles and work environments found in the work world
3. The determination of the whereabouts of such occupational styles and work environments within each career cluster
4. The identification of appropriate, tentative "career paths" and specific short range educational plans

These goals describe the phases of the course; specific behavioral objectives have been generated within each phase and for each activity.

Methods

The methods to be utilized in generating curriculum include those of Mager, Hauenstein, and Bailey and Stadt. In each, the sub-

ject matter content is initially determined; then ordered in terms of relative importance; and finally organized with respect to logical, sequential presentation.

In this orientational experience, designed to alert students to their personal potential relative to career selection and to aid them in determining where appropriate occupational styles can be found among the total scope of work, the cognitive subject matter becomes of lesser importance. The method of generating content, then, is altered somewhat. It is largely the methods themselves which become the subject matter content. In other words, the opportunity for students to simulate various occupational styles and roles becomes of primary importance, not the subject matter being used as a vehicle for each individual activity. For example, let us say it is important that a young person have the opportunity to simulate "selling" as a salesperson, since that "mode of operation" is a typical one found throughout the world of work. What is sold is relatively unimportant, the fact that the student is trying out the role of salesperson is of primary importance. In this instance the evaluation becomes pivotal, since it focuses upon the mode. (The emphasis upon the particular career cluster/clusters will vary as described later.)

In this fashion, selling as an occupational style could be related to any career cluster, depending upon individual teacher selection. (For example, selling real estate may be related to "construction"; a man-produced item, to "manufacturing"; band-aids, to "health"; and so forth.)

From this perspective, career clusters can be closely examined to determine those occupational styles or modes of operation most

prevalent or which best typify each particular cluster, recognizing that any given occupation may involve more than one such mode. It should also be noted that the six modes of operation identified by Holland are found in all fifteen United States Office of Education clusters--even though a specific mode of operation may best typify a particular cluster ("social" in "health", for example). It becomes important that "nontypical" modes found in all clusters be made visible, also. A simulation experience (try-out activity) can thus be designed to give students an opportunity to experience these particular roles as well as to investigate the related career clusters.

Supplemental reading materials and continual discussion concerning the role of personality characteristics as they relate to modes of work or occupational styles will strengthen the perspective of students concerning the total world of work.

An Analysis of Content Structure

The content of the orientation course will revolve about the following four themes:

1. Personality characteristics
2. Occupational styles/work environments
3. Career clusters
4. Planning

The content of each phase can be described as the following:

Personality characteristics. The effect of personality on career selection and life style, changing needs, maturity, factors which affect personality and a personal profile.

Occupational styles/work environments. The relationship between personality characteristics and work environments, six occupational

styles, the idea of appropriateness of career choice; predominance of needs, predominant styles/work environments in various "clusters," the community study and the role of avocations.

Career clusters. Activities representative of each career cluster with occupational types clearly visible, simulation activities, discussion of roles, definition and description of each cluster, regenerating the self-profile, culminating experiences including educational planning (short range) and the identification of "career paths" which seem appropriate (long range); realization that career goals change with changing needs will be sought (the purpose of this curriculum development project is to aid young persons to better perceive their future in the world of work--in particular, it is to provide a foundation for career selection and an unbiased orientation to exploratory and vocational offerings found at the secondary level).

Planning. Periodically, students will have an opportunity to observe and participate in experiences to help them identify sources of appropriate career-related experiences; such experiences may well be out-of-school as well as within the regular school program.

Instructional System

The instructional systems utilized will thus vary with each stage or phase of the curriculum. Initially, large group discussion to orient students to the course will be necessary. This will quickly lead to individual and small group work as students interview, role play, and otherwise develop their individual self-profiles. Discussion will provide students with some needed insights into profile results as they pertain to work selection.

Case studies of hypothetical persons may be used to aid students generalize about the occupational styles and individual needs. The main ideas associated with the systems of Super and Holland will be learned largely through reading, activities, and discussion. Group assignments pertaining to compiling of a community survey related to the prevalent work environments in the local community will follow.

At this point in the course, a variety of activities will be undertaken--each placing students into work environments which they afterwards will discuss and evaluate in personal terms. Related information pertaining to the career cluster which each activity typifies will be offered via workbooks and outside assignments. The course will culminate with students individually undertaking educational planning--perhaps with the aid of a counselor and/or with group techniques.

In short, the student will proceed through several phases within the orientational curriculum: (1) the initial phase, emphasizing who--the self, one's personality as related to work selection; (2) transitional phases identifying what, that is, what personality characteristics appear in various work modes; (3) where--exploring all career clusters to determine where such modes are found throughout the world of work; and finally, (4) how--aimed at improving educational planning, and determining how to attain career/educational goals.

Matrix Development

A matrix represents a graphic means by which curriculum content can be best seen (Bloom's Taxonomy). In this fashion, three coordinates are made to intersect, each representing a facet of the total

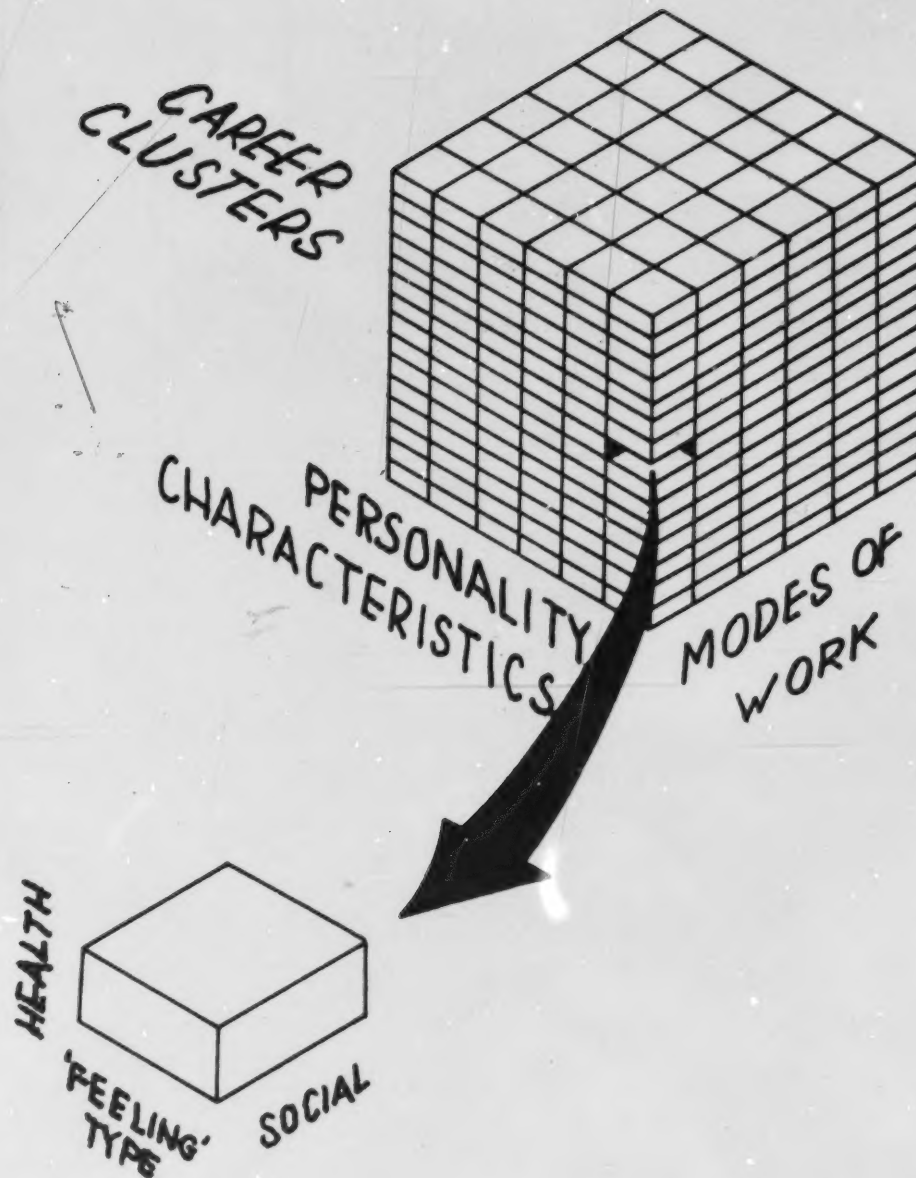


Figure 3

CACO Matrix

curriculum. In the case of the orientation curriculum under discussion, these coordinates can be identified as (1) personality characteristics, (2) occupational styles/work environments, and (3) career clusters. Each will be described in some detail in the description of phases which will follow. Figure 3 graphically illustrates the relationship among these various coordinates.

Phases of the Curriculum

The phases of the curriculum referred to earlier, are not mutually exclusive, but overlap and complement one another. Yet, each phase has an emphasis as described below:

Phase I: Personality characteristics. The initial phase of the curriculum is based upon focusing on the self-concept of each student. The elementary grades have had as a primary goal the development of such a self-concept. It is the task of the early part of this orientational experience to bring those personality characteristics which have an overt relationship to career selection to the attention of students.

It is not the purpose of the initial phase to broaden the guidance function of those employed by the school division for this purpose. Rather, it is to help students identify the relationships between personality characteristics and appropriate work selection.

The eight personality characteristics related to career selection as identified by the Myers-Briggs inventory are appropriate for our purposes. Since this age student is not fully mature and does not have a clear-cut self-image as yet, the characteristics as set forth by Myers-Briggs are adequate. (See table 2.)

TABLE 2

MYERS-BRIGGS INVENTORY

Introverts

- Like quiet for concentration
- Tend to be careful with details, dislike sweeping statements
- Have trouble remembering names and faces
- Tend not to mind working on one project for a long time uninterruptedly
- Are interested in the idea behind their job
- Dislike telephone intrusions and interruptions
- Like to think a lot before they act, sometimes without acting
- Work contentedly alone
- Have some problems communicating

Extroverts

- Like variety and action
- Tend to be faster, dislike complicated procedures
- Are often good at greeting people
- Are often impatient with long slow jobs
- Are interested in the results of their jobs, in getting it done and in how other people do it
- Often don't mind the interruption of answering the telephone
- Often act quickly, sometimes without thinking
- Like to have people around
- Usually communicate well

Feeling Types

- Tend to be very aware of other people and their feelings
- Enjoy pleasing people, even in unimportant things
- Like harmony; efficiency may be badly disturbed by office feuds
- Often let decisions be influenced by their own or other people's personal likes and wishes
- Need occasional praise
- Dislike telling people unpleasant things
- Relate well to most people
- Tend to be sympathetic

Thinking Types

- Are relatively unemotional and uninterested in people's feelings
- May hurt people's feelings without knowing it
- Like analysis and putting things into logical order; can get along without harmony
- Tend to decide impersonally, sometimes ignoring people's wishes
- Need to be treated fairly
- Are able to reprimand people or fire them when necessary
- Tend to relate well only to other thinking types
- May seem hard-hearted

Intuitives

- Like solving new problems
- Dislike doing the same thing over and over again
- Enjoy learning a new skill more than using it

Sensing Types

- Dislike new problems unless there are standard ways to solve them
- Like an established routine
- Enjoy using skills already learned more than learning new ones

MYERS-BRIGGS INVENTORY, CONTINUED

Intuitives

- Work in bursts of energy powered by enthusiasm, with slack periods in between
- Frequently jump to conclusions
- Are patient with complicated situations
- Are impatient with routine details
- Follow their inspirations, good or bad
- Often tend to make errors of fact
- Dislike taking time for precision

Sensing Types

- Work more steadily, with realistic idea of how long it will take
- Must usually work all the way through to reach a conclusion
- Are impatient when the details get complicated
- Are patient with routine details
- Rarely trust inspirations, and don't usually get inspired
- Seldom make errors of fact
- Tend to be good at precise work

Perceptives

- Tend to be good at adapting to changing situations
- Don't mind leaving things open for alterations
- May have trouble making decisions
- May start too many projects and have difficulty in finishing them
- May postpone unpleasant jobs
- Want to know all about a new job
- Tend to be curious and welcome new light on a thing, situation or person

Judging Types

- Best when they can plan their work and follow the plan
- Like to get things settled and wrapped up
- May decide things too quickly
- May dislike to interrupt the project they are on for a more urgent one
- May not notice new things that need to be done
- Want only the essentials needed to get on with it
- Tend to be satisfied once they reach a judgment on a thing, situation or person

Students will not be restricted to exploring those characteristics listed in table 2, since there are others which have meaning relative to work selection. Values can also be explored at this juncture. A standardized inventory will not be administered; rather various activities will be used to informally generate individual self-profiles for future reference by both students and teacher.

Phase II: Occupational styles/work environments. Once having better identified "self," students are ready to relate their personality characteristics to the kinds of work which seem appropriate to them. Having determined a certain degree of manipulative skill on his part, for example, a given student will become aware of the "mechanical" work mode through simulation-type experiences.

In this manner, the verbal orientation of teachers, attorneys, and entertainers; the social orientation of nurses, psychologists, and social workers and so on can readily be noted by students on a personal basis. In short, this coordinate represents the application of particular personality characteristics to work environments found throughout the world of work.

Holland groups various personality characteristics into six work environment clusters briefly referred to earlier. These are described in table 3. These clusters, as well as those used by Super and others, are not readily related to by educators. For illustrative purposes, "realistic" is synonymous with "mechanical," "investigative" with "intellectual," "conventional" with "clerical," and "enterprising" with "persuasive." Holland's terms, however, are more inclusive and in this respect, better. While other occupational psychologists have suggested different configurations of work environments, Holland's are adequate for the age level concerned.

TABLE 3
HOLLAND'S WORK ENVIRONMENTS

KINDS OF WORK	PREDOMINANT CHARACTERISTICS
<u>Realistic</u>	Type is characterized by aggressive behavior, interest in activities requiring motor coordination, skill and physical strength, and masculinity. They avoid tasks involving interpersonal and verbal skills and seek concrete rather than abstract problem situations. They score low on social skill and sensitivity.
<u>Investigative</u>	Type is characterized by thinking rather than acting, <u>organizing</u> and understanding rather than dominating or persuading and asociability rather than sociability. They prefer to avoid close interpersonal contact.
<u>Social</u>	Type is characterized by having to satisfy one's need for attention in a teaching or therapeutic situation. People seem to seek close <u>interpersonal</u> situations and are skilled in their interpersonal relations. They might avoid situations where they might be required to engage in intellectual problem solving or use extensive physical skills.
<u>Conventional</u>	Type is characterized by a great concern for <u>rules and regulations</u> , great <u>self-control</u> , subordination of personal needs, and a strong identification with power and status. This kind of person prefers structure and order and thus seeks interpersonal and work situations where structure is readily available.

HOLLAND'S WORK ENVIRONMENTS, CONTINUED

KINDS OF WORK	PREDOMINANT CHARACTERISTICS
<u>Enterprising</u>	Type is characterized by a great manifestation of verbal skills, in which they are used to <u>manipulate</u> and <u>dominate</u> others. This person has concern over achieving power and status and therefore aspires for it.
<u>Artistic</u>	Type is characterized by having strong <u>self-expression</u> and <u>relations with other people</u> indirectly through artistic expressions. A dislike for structure exists. However, a preference exists for tasks involving physical skills and interpersonal interactions.

Phase III: Career clusters. The final coordinate in the matrix noted earlier or the third phase of the curriculum is represented by the fifteen United States Office of Education clusters. Clustering has been discussed at length in chapter III.

Regardless what particular cluster system is utilized in the context of this orientation experience, its purpose is to identify for students where those occupational styles and work environments which seem most in keeping with their own personality characteristics can be found throughout the entire scope of work. Those career clusters are:

1. Agribusiness and natural resources
2. Business and office
3. Communication and media
4. Construction
5. Consumer and homemaking
6. Environment
7. Fine arts and humanities
8. Health
9. Hospitality and recreation
10. Manufacturing
11. Marine science
12. Marketing and distribution
13. Personal services
14. Public transportation

The activities within the curriculum may be related to clusters. This emphasis would be dependent upon the placement of the activity within the sequence of experiences, however.

Educational/Career Planning

One phase remains in this orientational experience--that of career and educational planning. Such a facet appears throughout the experience and hence has not been identified as a separate entity. Having focused upon "self," identified work environments which seem appropriate to his/her personality, and determined where they can be found in the various career clusters, the student is now ready to embark upon the planning portion of the experience.

What remains to be done, of course, is to synthesize the experience. This may be done at several points. Regardless, the student's self-profile will be regenerated, opportunities for the student to explore and/or observe courses or occupations of interest provided, and specific educational planning and career planning done. While this will occur several times, the experience becomes very significant at midyear and toward the end of the school year.

Synthesizing

An important aspect of the course is the manner in which students are helped to synthesize their experiences. It is pivotal that students not perceive the course as a "sure-fire" way to arrive at a decision relative to work selection. It is as important that they recognize the limitations to entrance into particular work.

Students must also be impressed throughout the course of their own changing needs and hence the change in their career needs as well, that there are restrictions upon career selection, and that their future life style is largely dependent upon such career selection. A pre- and post-test could very well determine the extent of such synthesizing by each student.

Concluding Statement

The structure of this orientation course has brought to light several important aspects related to the manner in which young people relate to specific occupations. The fact that interests and aptitudes are an outgrowth of personality should give educators the first clue as to the need for an intermediate step between placing various occupations before the young person, and asking him, in essence, to choose his career. Bridging the gap between "self" and "occupation" can be very difficult. The intermediate step is plainly aiding youth to identify an appropriate work environment and then to determine what occupations and careers are characterized by such an environment.

The importance of opportunities to reassess one's self-image in light of new learning is likewise important, as are those restrictions surrounding initial entrance into a career. It is to these aspects, more than to any others, which "A World of Choice: Careers and You" is addressed.

CHAPTER V

THE SELECTION AND ORGANIZATION OF LEARNING EXPERIENCES
AND CONSEQUENT DEVELOPMENT OF COURSE MATERIAL FOR

"A WORLD OF CHOICE: CAREERS AND YOU"

CHAPTER V

THE SELECTION AND ORGANIZATION OF LEARNING EXPERIENCES AND CONSEQUENT DEVELOPMENT OF COURSE MATERIAL FOR "A WORLD OF CHOICE: CAREERS AND YOU"

Identification of Content

The selection and ordering of learning experiences for "A World of Choice: Careers and You" is a large task. Considering the career clusters alone, the amount of subject matter content and information for each is enormous. Therefore, in each phase of the experience, decisions must be made relative to specific content as well as its organization and the articulation of various activities.

Phase I: Personality Characteristics

As noted earlier, the framework within which this phase of the curriculum will be developed pertains to the personality characteristics which are related to work selection according to the Myers-Briggs Inventory. Using these characteristics as a guide, several activities will be designed. The sociogram, interview, case study, the development of a self-profile and many other techniques will be considered. The self-profile itself will be the property of the student--no judgment concerning its accuracy or completeness is to be made by the teacher.

Gaming is also a legitimate activity used to arrive at such a profile. It is anticipated that several of those techniques presently

used in guidance can be readily adapted to fit this phase of the curriculum.

Phase II: Work Environments

This phase will be approached initially through the case study--noting the appropriateness or lack of appropriateness of individuals in their work. Each student will have an opportunity to experience a typical task associated with each work environment.

Phase III: Career Clusters

It is important at this juncture to restate the interrelatedness of these different phases. This is particularly evident when it is noted that specific activities may be repeated with merely a change in emphasis--from work environment to career cluster.

The criteria used to identify these activities (for both phases II and III) appear below. Primary criteria include the following:

1. Does it (the activity) typify one particular mode of work or several modes?
2. Does it typify a particular cluster (career cluster) or cut across several?

Once potential activities have been identified using these two criteria, they must further be selected using the following criteria associated with limitations imposed by structure:

1. Is the cost prohibitive?
2. Can it be done within a classroom organization?
3. Does it require special equipment?
4. How much time is consumed?
5. Will it hold student interest?
6. How many students are involved at one time? If only one or a few, what are the others doing?

Finally, it will be determined if instructional materials are already available to support any given activity which seems appropriate. The initial identification of activities which typify a given cluster area and/or work environment and which seem appropriate in all other aspects will be accomplished in several ways:

1. Survey: experts and representatives of the various career clusters will be surveyed using an instrument prepared for this purpose as well as through direct contact with staff members--interviews; in either case, suggested activities will be sought as well as opinions as to the most prominent work environment found in that cluster
2. Research: each staff member will be assigned a career cluster with which to become familiar; such knowledge will not only be of help in activity identification, but in generating student workbooks as well.

Care will be taken in surveying experts and representatives of each field to address such questions to persons representing a range of knowledge as well as a position in that field so as to avoid bias. In generating activities for this phase of the course, many different teaching methodologies will be employed.

Phase IV: Career/Educational Planning

Selection of the content for this phase will be eased to a degree, as part of the introductory phase will be repeated. The self-profile in particular will be regenerated. Opportunities to observe and perhaps participate in exploration activities in the school, while limited because of the number of students and because it is highly dependent upon the individual school administration, will be encouraged.

Time should permit students to isolate a cluster or two to pursue in and out of class. Educational and career plans can be generated in writing by several means--perhaps an instrument developed to assist students as well as career counseling.

Emphasis and Sequence

The emphasis placed upon the learning experiences will differ depending upon their placement within the sequence of activities. In other words, the emphasis of a given activity will initially make students aware of modes of work (work environments). A similar activity would more overtly be related to a career cluster were it to appear later in the course. For example, to illustrate a mechanical work environment, a student could assemble and disassemble a part of an engine. Were the experience repeated at a later time, the activity which might be more complex and in a larger context, would be overtly related to the transportation cluster.

An important aspect of the course is its sequence. The four phases have been described in some detail. It would appear that the self-profile aspects of the curriculum should be repeated occasionally to help students focus upon themselves as opposed to the subject matter which may be incidental. Further, the scheduling of courses for the following year occurs midyear, not at the end of school, so that students should be able to draw upon their experiences in "Careers and You" at that time.

For these reasons, it is desirable to organize the content and the four phases in a cyclical fashion as opposed to a linear development. The results will be that short term career and educational planning can be accomplished midyear while long term, career path-oriented planning can be done at the end of the experience. Figure 4 graphically illustrates this concept.

- A - Emphasis on modes
- B - Emphasis on career clusters
- C - Educational/career planning

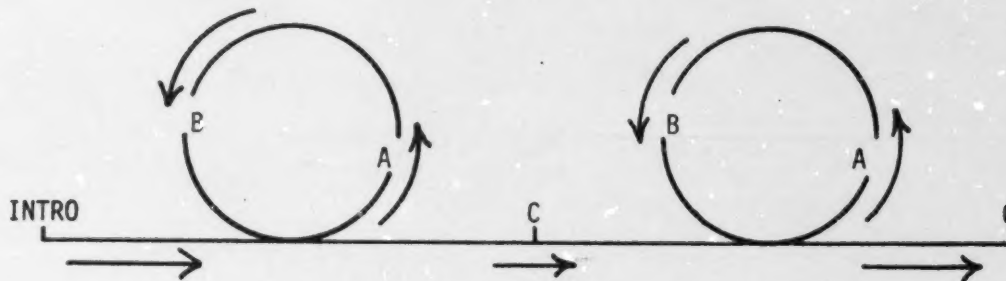


Figure 4. Course Configuration

Placement

The articulation of individual activities within the cyclical concept is dependent upon several factors. Some appear below:

1. Interest
2. Sequence of student posture (active, sedentary, individual, group)
3. Overtness of either mode or cluster
4. Time consumed
5. Relationship to previous and/or following activity (theme)
6. Representativeness of career clusters
7. Appropriateness to "goods" or "services"

Alternate activities will be provided to suit local conditions and concerns. The sequence and time determination of content for "Careers and You" thus becomes somewhat clearer. The first semester activities revolve about "services", the second about "goods". This division of the world of work is common at the elementary level and hence is appro-

priate to the transition students are expected to make to the more specific cluster nomenclature.

Domains

One of the aspects of curriculum development which has not been addressed to this point, deals with ensuring the comprehensiveness of the learning experience in terms of "domains." Bloom and Krathwohl describe three "domains" of learning as (1) affective, dealing primarily with values; (2) cognitive, dealing with knowledge; and (3) psychomotor, dealing with physical skill (Bloom).

The affective aspect of this curriculum begins early with the generation by students of a self-profile and continues throughout the totality of the course as students continually attempt to match their present personality characteristics to occupational styles and modes of operation found in the work world. While not stressed, values, interest, and attitudes are also brought into play as they affect choice. The culmination of this facet of the curriculum is found in the educational and career planning which occurs primarily at the midway point of the course and at its conclusion.

Cognitive aspects of the experience are primarily related to identifying work characteristics, modes of operation, career cluster descriptions, and of course, to the subject matter related to the activities themselves. Of particular concern is the deemphasis of those cognitive learnings associated with specific subject-matter content and job data not related to the activities. Since this experience is

based upon offering students such try-out opportunities, this facet is an extension of the concern with the affective domain and represents the actual vehicle used in orientation to the world of work. An effort to provide students with an equal number of experiences in terms of the work modes as well as representing those domains noted above will be made.

The "self" and "planning" aspects of the course "Careers and You" can be readily dealt with, as the subject matter is studied. The simulating of work modes, however, presents some problems in that while simulating any given mode, students will be doing something. This necessitates trying such **overt** content together as a theme--one flexible enough to permit a comprehensive set of simulation experiences for the student. Developing a planned community was chosen as this theme.

Specific content relative to cluster and vocational courses was arrived at through advisory committees and the help of vocational service area supervisors.

Measurement and Evaluation

Evaluation of the project and its effect upon early secondary students can be broken into three segments:

1. An anticipatory segment which describes the nature of baseline data that may have relevance for classifying, summarizing, and post-analyzing student, teacher, administrator, parent and community characteristics
2. A description of the method and technique used in the classroom as well as in the development of the learning activities (quality control must be insured at this juncture to minimize different reactions from field sites)
3. Field-site evaluations to provide an opportunity to gain perceptions from the users themselves regarding their feelings and knowledge gained from each activity; an experimental model for use during the third year to determine effectiveness is essential

Segment one: Anticipatory. The following types of information will be sought:

1. School data: name, size, setting, organization, and racial balance
2. Community data: average family income and work force distribution
3. Student data: (See field site evaluation.)

Segment two: Laboratory. Laboratory evaluation consists of an examination of those elements which can be readily observed both in terms of the process and the materials used in the project.

The first step in the laboratory evaluation is to examine the materials developed for the project. This would include the student activity book, teacher's manual, and any other materials used in conducting the career education course. Materials should be examined for both readability and content validity, as discussed below.

1. Readability: Printed material may be written in good style and contain a wealth of information, but unless the reader is able to comprehend the material with reasonable understanding, it is of little value. All materials produced for the project should be tested for readability
2. Content validity: A type of content validity can be established in a project of this nature through a careful examination of materials by a panel of experts who have been trained to identify the critical areas of concern. Such a panel will consist of not less than three individuals who have a working knowledge of the field under study. The following questions are important for such a panel to pose:
 - are there materials for all of the activities listed in the project?
 - do the materials contain what the project says they contain?
 - does the material cut across all career clusters?
 - does the material cut across all work environments?
 - is the material sequenced so that activities build upon each other?

Segment three: Field test sites. Three major types of analysis are to be conducted during the field-test site segment:

1. Perceptions by "users" regarding their feelings and knowledge gained from exposure to the curriculum. This is directed primarily at students and teachers; although guidance personnel, parents, and administrators may have feedback to contribute. Both teachers and students will evaluate each learning activity. Teachers will meet weekly for informal evaluation, regionally to generate alternate experiences, and will be in continual contact with the project staff by scheduled phone calls.
2. Staff development perceptions: Since a network of in-service responsibilities must be designed (third year: implementation), field-test teacher reaction to in-service activities in terms of methods used and content is extremely important.
3. Career Development Effectiveness: Perhaps the key to the evaluation efforts of this project are addressed to the effect that the experience has upon students. Although best done over a long period of time, the model which appears below will yield student growth.

The probable experimental research design is shown diagrammatically as follows:

<u>Random Classes</u>	<u>1976 Pre- test</u>	<u>1976 First Semester</u>	<u>1976 Mid- test</u>	<u>1977 Second Semester</u>	<u>1977 Post- test</u>	<u>Type</u>
A. (25% of sample)	O ₁	X	O ₂	X	O ₃	experimental
B. (25% of sample)		X		X	O ₄	experimental
C. (25% of sample)	O ₅		O ₆		O ₇	control
D. (25% of sample)					O ₈	control

With the O's denoting the occurrence of testing and the X's denoting classroom use of the proposed CACO activities, the design permits an analysis of differences between experimental and control groups. The 1976 pretest results (O₁ and O₅) between A and C will help determine if random assignment of classes provided comparable groups at the beginning of the research. Likewise, comparisons between

O_2 and O_6 give indications of first semester growth differentials that may be attributed to the activities. Combining O_3 and O_4 and comparing it with the combined O_7 and O_8 results will give differences at the end of the year and provide an evaluation of the significance of the differences affected by CACO.

The design also takes advantage of normal cognitive growth that occurs without advantage of the curriculum activities. Pretest and post tests are provided on both experimental and control groups to give that comparison. Because some students may be able to learn from the test contents, separate comparisons between O_3 and O_4 and between O_7 and O_8 will allow learning resulting from CACO alone to be determined. The design meets the necessary assumptions required for analysis of the test results by both analysis of variance and analysis of co-variance techniques. A standardized instrument will be used for this phase of the evaluation.

Summary

Career development has been identified as a legitimate concern of education. The career education movement, its roots dating back to the early sixties, has brought such a concern to the attention of educators and the general public as well. Theories of occupational choice and career development have been postulated by occupational psychologists since 1951, when Ginzberg did his initial work in the area.

Education, by and large, however, had not acted upon the many principles put forth until the last few years. When change did come, the shape which it took was in the form of additional transition-type experiences for youth, greater availability of exploratory courses and

vocational education, and an increase in interchange between students of all ages and working people--the community.

The nature of these experiences was dictated in a large part by the backgrounds of those who were given the responsibility of their design. In some instances, occupational psychology tenets were misinterpreted as a result. Most notable was equating exploratory course work to "try-out" experiences described by occupational psychologists as pivotal in the career development of youth. In turn, growing out of the identification of comfortable and appropriate work modes, the need for an orientational experience based upon such try-out experiences has become apparent.

An overview of the structure to be used in generating a true orientation course indicates a self-evaluation phase, a transitional stage related to work environments, a simulation stage aiding students to relate to both work environments and career clusters, and an educational/career planning stage whose purpose initially is short term planning, then long term planning. Opportunities to investigate a particular cluster or mode coupled with observational experiences are of utmost importance in the latter. In this manner, a smooth transition is made by students who first focus upon "self," then relate personality characteristics to types of work environments, identifying where such environments as seem appropriate to the individual are found among the career clusters, and finally planning those educational experiences which seem most appropriate to their career development.

Finally, the organization of the CACO Project was described to indicate the manner in which such a course will be developed. In par-

ticular, the interrelationships which exist between the State Department of Education, the university community, lay people, and the public school divisions are of extreme importance to the success of the endeavor.

Implications for Further Study

The CACO effort has initially uncovered the need for a research effort concerning the selection of teaching methods. In all likelihood, others will come to light.

Briefly, since work environments are of most importance in offering try-out experiences to young people, and since such work environments are more easily assimilated into the teaching act than career information, the comprehensiveness of teaching methods used and the basis upon which they are selected by teachers should be investigated. In particular, teacher educators should be given the perspective of using career development as an additional criterion to be used in the selection of teaching methods.

The need exists for meaningful follow-up exploratory experiences utilizing the career cluster concept to occur before realistic occupational preparation begins. Efforts are underway in some program areas; however, all vocational exploratory efforts do not necessarily relate to the orientation of "Careers and You," nor follow the logic of scope implied through the development of CACO.

There will be opportunities for additional research which will be identified as a result of this effort. It is expected that several theses and dissertations will result from the project with the accompanying dissemination and input into the career education effort.

Concluding Statement

This rationale for the selection and organization of learning experiences and the development of course materials for "A World of Choice: Careers and You" has grown from the efforts of the CACO staff, advisory committees, consultants, and other interested parties. In constructing this rationale, a special effort was made to elicit the professional judgment of those outside of education. The project staff has made instructional design decisions. Through such an effort, secondary school youth throughout the State of Virginia will eventually be able to more efficiently plan their career development.

REFERENCES

REFERENCES

- Ack, M. "Is Education Relevant?" Journal of Home Economics, 62:9 (1970), 647-651.
- Almy, M. "Wishful Thinking About Children's Thinking," Teachers' College Record, 62 (1961), 396-406.
- Ashton-Warner, Sylvia. Teacher. New York: Simon and Schuster, 1963.
- Askins, J. "Black English, 'Different Strokes for Different Folks'," Tallahassee Democrat, July 30, 1972, A8.
- Auchincloss, K. et al. "Marijuana: Time to Change the Law?" Newsweek, September 7, 1970, pp. 20-32.
- Bailey, Larry J. and Ronald Stadt. Career Education: New Approaches to Human Development. Bloomington, Illinois: McKnight Publishing Company, 1973.
- Bennett, Charles Alpheus. History of Manual and Industrial Education Up to 1870. Peoria, Illinois: The Manual Arts Press, 1926.
- Blair, G.M., R.S. Jones, and R.H. Simpson. Educational Psychology. New York: Macmillan Company, 1962.
- Bloom, B.S. (ed.). Taxonomy of Educational Objectives, Handbook I: Cognitive Domain. New York: Longmans, Green and Company, 1956.
- Buehler, Charlotte. Der men Schliche Lebenslauf als Psychologisches Problem. Leipzig: Hirzel, 1933.
- Burton, Andrew. Thinking: Its Nature and Development. New York: Wiley, 1974.
- Butts, Robert Freeman, and Lawrence A. Cremin. A History of Education in American Culture. New York: Holt, Rinehart, and Winston, 1964.
- Commission on Reorganization of Secondary Education. Cardinal Principles of Secondary Education. Washington, D.C.: Government Printing Office, 1918.
- The Committee on the Objectives of a General Education in a Free Society. General Education in a Free Society. Cambridge, Massachusetts: Harvard Union Press, 1945.
- Cooley, W.W. "Interaction Among Interest, Abilities, and Career Plans," Journal of Applied Psychology, Monograph Supplement, 51: part 2, 1967.

- Council of the Society for the Psychological Study of Social Issues, "Racial Factors of Intelligence, A Rebuttal Transaction," 6:7 (June, 1969), pp. 6, 75.
- Curti, Merle E. The Social Ideas of American Educators. Paterson, New Jersey: Pageant, 1959.
- Dinkmeyer, D.C., and R. Dreikurs. Encouraging Children to Learn: The Encouragement Process. Englewood Cliffs, New Jersey: Prentice-Hall, 1963.
- Educational Policies Commission. The Purpose of Education in American Democracy. Washington, D.C.: National Education Association, 1938.
- Elder, G.H., Jr. "Family Structure and the Transmission of Values and Norms in the Process of Child Rearing." Unpublished doctoral dissertation, University of North Carolina at Chapel Hill, 1961.
- Elkind, David. "One Man in His Time Plays Many Psychosocial Parts - Erik Erikson's Eight Stages of Man," The New York Times Magazine April, 1970, pp. 25-27, 84-92, 110-119.
- Empey, L.T. "Delinquency Theory and Recent Research," Journal of Research in Crime and Delinquency, 1967, pp. 4, 28-32.
- Farnham-Diggory, S. "The Growth of Symbolic Abilities in Black and White Children." A report to the Society for Research in Child Development, Santa Monica, California, 1969. In R.C. Smart and M.S. Smart, eds., Readings in Child Development and Relationships, New York: The Macmillan Company, 1972, pp. 297-304. In Mollie S. Smart and Russell C. Smart, eds., School-Age Children, Development and Relationships, New York: The Macmillan Company, 1973, pp. 106-113.
- Flavell, J.H. The Developmental Psychology of Jean Piaget. Princeton, New Jersey: Van Nostrand, 1963.
- Frantz, Nelson R. Career Cluster Concepts. Columbus, Ohio: Center for Vocational Education, The Ohio State University.
- Ginzberg, H. and Oppen, S. Piaget's Theory of Intellectual Development: An Introduction. Englewood Cliffs, New Jersey: Prentice-Hall, 1969.
- Ginzberg, Eli S. et al. Occupational Choice: An Approach to a General Theory. New York: Columbia University Press, 1951.
- Goode, Carter V. (ed.). Dictionary of Education. New York: McGraw-Hill Publishing Company, 1973 edition.

- Gruher, William T., and Karl R. Douglass. The Modern Junior High School. New York: Ronald Press Company, 1971.
- Guilford, J.P. "Three Faces of Intellect," The American Psychologist, 1959, pp. 469-479.
- Harvey, O.J., D.E. Hunt, and H.M. Schroeder. Conceptual Systems and Personality Organization. New York: Wiley, 1961.
- Hauenstein, A.Dean. Curriculum Planning for Behavioral Development. Worthington, Ohio: Charles A. Jones Publishing Company.
- Havighurst, R.J. Developmental Tasks and Education. New York: McKay, 1952.
- Herr, Edwin. Review and Synthesis of Career Education. Columbus, Ohio: ERIC Clearinghouse on Vocational and Technical Education, 1972.
- Holland, John L. The Psychology of Vocational Choice: A Theory of Personality Types and Model Environments. Waltham, Massachusetts: Blaisdell Publishing Company, 1966.
- Holt, John. How Children Learn. New York: Pitman, 1967.
- Hurlock, E. Child Development. 4th ed. New York: McGraw-Hill Publishing Company, 1964.
- Landreth, C. Early Childhood: Behavior and Learning. New York: Knopf, 1967.
- Marland, Sidney P., Jr., "Career Education Now." Address to the National Association of Secondary School Principals, 1971.
- Marland, Sidney P., Jr. "Education for More Than One Career," World, July 18, 1972.
- Maslow, A.H. "A Theory of Human Motivation," Psychological Review, 50 (1943), pp. 370-396.
- Mussen, P.H., J.J. Conger, and J. Kagan. Child Development and Personality. 3d ed. New York: Harper and Row, 1969.
- Mussen, P.H., J.J. Conger, and J. Kagan. Child Development and Personality. 4th ed. New York: Harper and Row, 1974.
- Norris, Willa et al. The Information Service in Guidance. 3d ed. Chicago, Illinois: Rand McNally and Company, 1966.

- Osipow, Samuel H. "Implications for Career Education Research and Theory on Career Development." Address to the National Conference on Career Education for Deans of Colleges of Education, Columbus, Ohio, April, 1972.
- Osipow, Samuel H. Theories of Career Development. 2d ed. New York: Meredith Corporation, 1973.
- Pulaski, M.A.A. Understanding Piaget: An Introduction to Children's Cognitive Development. New York: Harper and Row, 1961.
- Rosenthal, R., and L. Jacobson. Pygmalion in the Classroom. New York: Holt, Rinehart and Winston, 1968.
- Simon, M.D. "Body Configuration and School Readiness," Child Development, 30 (1959), pp. 493-512.
- Stevenson, John B. An Introduction to Career Education. Worthington, Ohio: Charles A. Jones Publishing Company, 1973.
- Super, D.E. The Psychology of Careers. New York: Harper and Row, 1957.
- Super, D.E. "A Theory of Vocational Development", American Psychologist, August, 1972 pp. 187-190.
- Super, D.E., R. Stastishevsky, N. Matlin, and J.P. Jordan. Career Development: Self-Concept Theory. New York College Entrance Examination Board, Research Monograph Number 4, 1963.
- Towers, Edward R. A Rationale and Structure for Industrial Arts Subject Matter. United States Office of Education, Bureau of Research, Division of Adult and Vocational Research, November, 1966.
- U.S. Department of Labor. Dictionary of Occupational Titles. Washington, D.C.: United States Government Printing Office, 1965.
- Webster's Third New International Dictionary. G. & C. Merriam, 1961.
- Williams, Joyce W., and Marjorie Stith. Middle Childhood Behavior and Development. New York: The Macmillan Company, 1974.

APPENDIXES

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APPENDIX D
ADDITIONAL CAREER EDUCATION RESOURCES

Career Education - New Approaches to Human Development, Bailey and Stadt, 1973

Career Education: The New Frontier, Ressler, 1973

Careers and Opportunities in Astronautics, Zarem, 1969

Careers and Opportunities in Commercial Art, Biegeleisen, 1963

Careers and Opportunities in Computer Science, Carroll, 1967

Careers and Opportunities in Electronics, Carroll, 1968

Careers and Opportunities in Physics, Pollack, 1959

Careers and Opportunities in Retailing, Wilinsky, 1970

Careers and Opportunities in Science, Pollack and Purcell, 1968

Careers and Opportunities in the Medical Sciences, Freese, 1971

Careers and Opportunities in the Theater, Dalrymple, 1971

Careers in Medical Science, Seide, 1973

The Courage to Change, Pucinski and Hirsch, Editors, 1971

A Definitive Study of Your Future as a Secretary, Noyes, 1970

A Definitive Study of Your Future as a Shorthand Reporter, Allen, 1974

Dictionary of Occupational Titles

Education and Vocational Guidance Today, Vaughan, 1970

Encyclopedia of Careers and Vocational Guidance

Exploring Careers in Child Care, Cincinnati Public Schools, 1974

Guidance Monograph Series: Series II (9 titles)

Guidance Monograph Series: Series IV - Career Information and Development (9 titles)

Guidance, Selection, and Training: Ideas and Applications, Morea,
1972

Man, Education, and Manpower, Venn, 1970

Managing Career Education Programs, Stadt, Bittle, Kenneke, and
Nystrom, 1973

Mathematics for Industrial Careers, Singer, 1974

Occupational Outlook Handbook

Occupations and Careers, Feingold and Swerdloff, 1969

On the Job Training and Where to Get It, Liston, 1973

Pick Your Job and Land It, Edlund, and Edlund, 1973

Planning and Organizing Career Curricula, Kenneke, Nystrom, and
Stadt, 1973

Religion as an Occupation, Fichter, 1966

World of Communications - Visual Media, Hauenstein and Bachmeyer, 1974

The World of Construction, IACP, 1970

The World of Manufacturing, IACP, 1971

The World of Work, Kimbrell and Vineyard, 1972

You Can Work in the Communications Industry, Dietz, 1970

You Can Work in the Health Services, Dietz, 1968

You Can Work in the Transportation Industry, Dietz, 1969